WEAVER CONSTRUCTION MANAGEMENT
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SUBMITTAL TRANSMITAL

November 4, 2011
WGC Submittal No: 09900-001

PROJECT: **Harold Thompson WRF**
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: **GMS, Inc.**
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan Sewage Disposal District**
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: **Applewood Painting**
14000 W. 78th Avenue
Arvada, CO 80005
Shane Anderson apco3@qwestoffice.net

SUBJECT: Protective Coatings Submittal – Summary, Painting Schedule, Color Card, Product Data and M.S.D.S.

Note: Systems 5 and 8 on the paint schedule are not covered by this sub-contractors submittal.

SPEC SECTION: 09900 - Painting

PREVIOUS SUBMISSION DATES: None

DEVIATIONS FROM SPEC: ___ YES _x_ NO

CONTRACTOR'S STAMP: This submittal has been reviewed by WCM and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto:

Contractor's Stamp:	Engineer's Stamp:
Date: 11/04/11 Reviewed by: H.C. Myers (X) Reviewed Without Comments ( ) Reviewed With Comments	

ENGINEER'S COMMENTS:_____

SECTION 09900

PAINTING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope

1. Field painting of all new non-prefinished items including surface preparation and surface protection
   a. Repair of shop painted surfaces damaged during shipment, handling or installation
   b. Field priming of all new surfaces that are not shop primed
   c. Field finishing of all shop primed surfaces
   d. Field finishing of all field primed surfaces
   e. Field painting of all existing surfaces indicated on the Drawings
2. Piping identification for both new and existing piping
3. Equipment identification

B. Additional Requirements Specified Elsewhere

1. Section 01340: Shop Drawings and Product Data
2. Section 01400: Quality Control
3. Section 01600: Materials and Equipment
4. Section 01730: Operating and Maintenance Data

C. Related Requirements Specified Elsewhere

1. Section 01600: Materials and Equipment
2. Section 04200: Unit Masonry
3. Section 05500: Metal Fabrication
4. Section 06100: Carpentry
5. Section 07900: Joint Sealants
6. Section 09251: Gypsum Wallboard
7. Division 11: Equipment

1.2 QUALITY ASSURANCE

A. Include on Label of Containers

1. Manufacturer's name
2. Type of paint
3. Manufacturer's stock number
4. Color
5. Instructions for reducing, where applicable
6. Label analysis
7. Federal specification number

G. Wood: Oil vehicle for wood

H. Insulated: As recommended by manufacturer of finish coats

I. Concrete: As recommended by manufacturer

J. Concrete Block: Concrete block filler except for block with integral color

K. Tie Coat: As recommended by manufacturer of top coats

3.7 PAINTING SCHEDULE (Refer to Part 2 of this Section)

A. Metal Surfaces

1. All surfaces of structural and miscellaneous steel exposed in exterior and interior locations, except for chemical feed areas
   a. Primer, system 2.2.A: 2.0-3.5 mils dry film
   b. Finish coats: 2 total; each coat, system 2.3.A @ 1.5-2.5 mils dry film
2. All fully or partially submerged metal surfaces of screening, sludge collection, clarification, and grit removal equipment unless otherwise specified
   a. Primer, system 2.3.C: 7 mils dry film
   b. Finish coat, system 2.3.C: 7 mils dry film
   c. Total dry film thickness: 14.0 mils
3. All exposed surfaces of both new and existing cast iron and steel piping inside buildings and above grade outdoors including valves, fittings, flanges, bolts, supports, and accessories therefore and including galvanized surfaces
   a. Primer, system 2.2.A: 2.0-3.5 mils dry film
   b. Finish coat, system 2.3.A: 3-5 mils dry film
   c. Total dry film thickness: 5.0-8.5 mils
4. All exposed surfaces of electrical conduit inside buildings, except banks of conduits in multiple layers hung from ceilings including fittings, boxes, supports, and accessories
   a. Primer, system 2.2.A: 2.0-3.5 mils dry film
   b. Finish coats: 2 total, each coat, system 2.3.B @ 1.5-2.5 mils dry film each
   c. Total dry film thickness: 5.0-8.5 mils
5. All exposed surfaces, unless otherwise specified, which will be buried including valves, valve boxes, metal harness anchors, but excluding piping laid in the ground
   a. Primer, system 2.2.B: 10 mils dry film
   b. Finish coat: system 2.3.C: 10 mils dry film
   c. Total dry film thickness: 20 mils
6. All exterior surfaces of cast iron and steel piping exposed or submerged in manholes, wetwells and similar locations inducing valves, fittings, flanges, bolts, supports and accessories
   a. Primer: System 2.2.B: 7 mils dry film
   b. Finish coat: System 2.3.C: 7 mils dry film
   c. Total dry film thickness: 14 mils
7. All miscellaneous metal exposed in the chemical feed areas
   a. Primer: System 2.2.D: 7 mils dry film

b. Finish coat: System 2.3.F: 7 mils dry film
c. Total dry film thickness: 14 mils

8. All miscellaneous castings including M.H. rings, covers, and steps not foundry dipped
   a. Primer, system 2.2.B: 10 mils dry film
   b. Finish coat, system 2.3.C: 10 mils dry film
   c. Total dry film thickness: 20 mils
9. All exposed surfaces of aluminum and galvanized duct work
   a. Primer, system 2.2.H: 2.0-4.0 mils dry film
   b. Finish coat, system 2.3.Q: 1 coat, 2.0-4.0 mils dry film
   c. Total dry film thickness: 4.0-6.0 mils
10. Copper tubing including fittings and valves
   a. Primer, system 2.2.D: 0.3-0.5 mils dry film
   b. Finish coats: 2 coats, each coat, system 2.3.A @ 1.5-2.5 mils dry film each
   c. Total dry film thickness: 3.3-5.3 mils
11. Polished brass or bronze
   a. Primer and finish coats: System 2.3.I: 2 coats total, 2 mils dry film
12. All surfaces subject to extreme heat including engine exhaust piping
   a. Primer and finish coats, system 2.3.J through 2.3.L: 2 coats @1.5-3 mils dry film thickness total
13. All metal harness anchorage for buried piping
   a. Primer, system 2.3.D: 20 mils dry film thickness
   b. Finish coat, system 2.3.D: 10 mils dry film thickness
   c. Total dry film thickness: 30 mils

B. Concrete and Masonry Surfaces

1. Interior walls of Headworks operating floor level from operating slab to 4' above slab
   a. Block filler: System 2.2.E
   b. Primer coat: None required
   c. Finish coats: System 2.3.Q
2. Where indicated on Drawings or specified: Section 07150 - Dampproofing
3. Where indicated on Drawings or specified
   a. Prime coat: System 2.2.D
   b. Finish coat: System 2.3.F
4. Exterior, exposed concrete surface
   a. Prime coat: System 2.2.I
   b. Finish coat: System 2.3.S: 8-11 mills dry film thickness
      1) Finished form surface preparation in accordance with Section 03300
      2) Color selection by Owner and Engineer
      3) Apply in accordance with Manufacturer's specifications
5. Exterior, exposed masonry
   a. Block filler: System 2.2.E
   b. Primer coat: none required
   c. Finish coats: System 2.3.T: 8-10 mils dry film thickness

C. Miscellaneous Surfaces

1. Gypsum and Keene's cement finish plaster surfaces: 2 coats, system 2.3.E

2. Wood shelves: 2 coats minimum clear satin varnish, system 2.3.I
3. Insulated piping: 2 coats minimum gloss, system 2.3.A
4. PVC piping: 2 coats minimum gloss alkyd enamel, system 2.3.A

3.8 SURFACES NOT TO BE PAINTED

A. Except as otherwise required or directed, do not paint the following surfaces

1. Exposed surfaces of aluminum, except ductwork or surfaces in contact with concrete
2. Polished or finished stainless steel; unfinished stainless steel shall be painted
3. Nickel or chromium
4. Galvanized surfaces, except piping, conduit, ductwork, and other items specifically noted
5. Piping concealed in inaccessible plumbing chases and above suspended ceilings
6. Rubber and plastics, including fiberglass reinforced plastics
7. Acoustical panel ceilings
8. Face brick
9. Exterior concrete except where otherwise specified on Drawings
10. Surfaces specified to be factory finished
11. Interior of precast concrete roof and walls
12. Cast-in-place columns and beams
13. Unit masonry with integral color

3.9 PIPING

A. Paint all new and existing exposed piping and piping in accessible chases in accordance with color schedule included below

B. Paint any piping, not scheduled to be color coded, to match adjacent wall or ceiling surface include appropriate service identification and flow direction arrows

C. Do not paint uninsulated stainless steel pipe or PVC pipe; for color coding, use bands of specified color on top of pipe

D. Locate lettering and flow direction arrows near equipment served, adjacent to valves and hose bibs, both sides of walls and floors where pipe passes through, at each branch or tee, and at intervals of not less than 50' in straight runs of pipe

E. Provide metal tags instead of lettering for all pipes with outside diameter or pipe covering diameter 5/8" or smaller. Tags are to be of stainless steel or aluminum with identifying lettering stamped in and fastened to pipe with suitable chains

3.10 PAINTING COLOR SCHEDULE

A. Piping Schedule

Letters	Color of Pipe	Color of Letters
Potable Water (hot or cold)	Light Blue	Black
Non-Potable Water	Dark Blue with White Bands	White
Seal Water	Dark Blue with red Bands	White
Compressed Air	Light Green	Black
Laboratory Vacuum	Dark Green with light green bands	Red
Vacuum Pump	Aluminum	Black
Discharge Natural Gas	Red	White
Sludge Gas	Red with black bands	Black
Sewage	Light Gray	Black
Sump Pump Discharge	Light Gray	Black
Primary Sludge and Scum	Dark Brown	White
Return Sludge	Light Brown	White
Waste Activated Sludge & Final Scum	Dark Brown with yellow bands	White
Digester Supernatent	Light Gray	Black
Digested Sludge	Dark Brown with yellow bands	White
Drain	Dark Gray	White
Chlorine (gas liquid or vent)	Yellow	Black
Chlorine (solution)	Yellow with red bands	Black

B. Paint electrical conduit to match adjacent ceiling or wall surfaces as directed by the Engineer. Paint vent lines to match surfaces they adjoin

C. Special painting of the following will be required

Item	Color
Valve handwheels and levers	Red
Hoist hooks and blocks	Yellow and black stripes

3.11 IDENTIFICATION

A. Lettering

1. Paint, stencil, or use snap-on markers
2. Letter size as follows

Outside Diameter of Pipe or Covering	Minimum Height of Letters
⅝" or smaller	Metal tags - ¼"
¾" through 4"	¾"
5" or larger	2"

B. Scheduled Color Coding

1. All 24" pipe and smaller
2. Bands where scheduled: 6" wide at 5' intervals

C. Piping Not Scheduled

1. Paint to match wall or ceiling, unless otherwise directed by Engineer
2. Appropriately identify and place flow arrows
3. Uninsulated stainless steel and PVC
   a. Natural finish
   b. Color bands where scheduled

D. Equipment Identification Nameplate

1. Mount on all pieces of equipment to identify its function
   a. All new valves in exposed service
   b. All existing valves
   c. All pieces of equipment
2. Designations correspond to those shown on drawings
3. Embossed aluminum
4. 1" by 3" minimum
5. Letters 3/16" high minimum
6. Mounted directly on or adjacent to each piece of equipment

E. Nonpotable Water Supply System

1. Provide 10" x 14" minimum caution signs to read "CAUTION – NONPOTABLE WATER SUPPLY", unless otherwise directed on the Drawings
2. Attach directly on or adjacent to all hose bibs and yard hydrants

END OF SECTION

International.

Submittal Summary
Harold Thompson WRF
October 17, 2011

Coating Schedule

3.7 Painting Schedule -

A - Metal Surfaces

#1 • All surfaces of structural and miscellaneous steel exposed in exterior and interior locations, except for chemical feed areas.

Primer:	Devoe Coatings | Devguard 4160 Rust Inhibitive Primer	2.0	-	2.5	MDFT
Finish 1:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
Finish 2:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	6.0	-	10.5	MDFT

#2 • All fully or partially submerged metal surfaces of screening, sludge collection, clarification, and grit removal equipment unless otherwise specified.

Primer:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
	**Total Dry Film Thickness (DFT), Mils*	14.0	-	16.0	MDFT

**Devtar 5A-HS may be applied in one (1) coat up to 20.0 MDFT to achieve required total MDFT.*

#3 • All exposed surfaces of both new and existing cast iron and steel piping inside buildings and above grade outdoors including valves, fittings, flanges, bolts, supports, and accessories therefore and including galvanized surfaces.

Primer:	Devoe Coatings | Devguard 4160 Rust Inhibitive Primer	2.0	-	2.5	MDFT
Finish 1:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
Finish 2:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	6.0	-	10.5	MDFT

#4 • All exposed surfaces of electrical conduit inside buildings, except banks of conduits in multiple layers hung from ceilings including fittings, boxes, supports, and accessories.

Primer:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	3.5	MDFT
Finish 1:	Devoe Coatings | Devflex 4216 Water-borne Acrylic S/G	1.5	-	4.0	MDFT
Finish 2:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	1.5	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	5.2	-	11.5	MDFT

#6 • All exterior surfaces of cast iron and steel piping exposed or submerged in manholes, wet-wells and similar locations inducing valves, fittings, flanges, bolts, supports and accessories.

#5 & 8 not submitted

Primer:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
	**Total Dry Film Thickness (DFT), Mils*	14.0	-	16.0	MDFT

**Devtar 5A-HS may be applied in one (1) coat up to 20.0 MDFT to achieve required total MDFT.*

#7 • All miscellaneous metal exposed in the chemical feed areas.

Primer:	Devoe Coatings | Devran 224HS Epoxy	7.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devran 224HS Epoxy	7.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	14.0	-	16.0	MDFT

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#9 • All exposed surfaces of aluminium and galvanized duct work.

Primer:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	4.0	MDFT
Finish:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	4.4	-	8.0	MDFT

#10 • Copper tubing including fittings and valves.

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
*Finish 1:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	8.0	-	16.0	MDFT

**If required to achieve uniform opacity and finish/sheen.*

#11 • Polished brass or bronze.

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	8.0	-	16.0	MDFT

#12 • All surfaces subject to extreme heat including engine exhaust piping.

(*Up to 250 Degrees F.*)

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish Int.:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish Ext.:	Devoe Coatings | Devthane 379 Aliphatic Urethane	2.0	-	3.0	MDFT
	Total Dry Film Thickness (DFT), Mils (Interior)	8.0	-	16.0	MDFT
	Total Dry Film Thickness (DFT), Mils (Exterior)	6.0	-	11.0	MDFT

(*Greater than 250 Degrees F., up to 500 Degrees F, with spikes to 1000 Degrees F.*)

Finish:	Devoe Coatings | HT-10 High Heat Aluminum	1.0	-	2.0	MDFT
	Total Dry Film Thickness (DFT), Mils (Interior/Exterior)	1.0	-	2.0	MDFT

B - Concrete and Masonry Surfaces

#1 • Interior walls of Head-works operating floor level from operating slab to 4' above slab.

Primer:	ITW PolySpec-Futura | FB 415 Water-borne Epoxy Primer	2.0	-	5.0	MDFT
Finish:	ITW PolySpec-Futura | Geothane 520 Modified Urethane Elastomer	20.0	-	30.0	MDFT
	Total Dry Film Thickness (DFT), Mils	22.0	-	35.0	MDFT

#2 • Where indicated on Drawings or specified: Section 07150 - Damp-proofing.

Finish:	BASF | Hydrocide 700B	70	-	100	SF / Gal
	Total Dry Film Thickness, SF per Gallon	70	-	100	SF / Gal

#3 • Where indicated on Drawings or specified.

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	8.0	-	16.0	MDFT

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International.

Submittal Summary
Harold Thompson WRF
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#4 • Exterior, exposed concrete surface.

Primer:	Glidden Professional | Bond Prep 3030 Pigmented Bonding Primer	1.4	-	1.6	MDFT
Finish:	Glidden Professional | Decra-Flex *2260 Elastomeric Coating	100	-	115	SF / Gal
	Total Dry Film Thickness, SF per Gallon (Excludes Primer)	100	-	115	SF / Gal

**2260-Smooth, 2270-Fine Texture, 2290-Course Texture*

#5 • Exterior, exposed masonry.

Primer:	Devoe Coatings | Bloxfil 4000 HD Block-Filler	7.0	-	14.5	MDFT
Finish:	Glidden Professional | Decra-Flex *2260 Elastomeric Coating	100	-	115	SF / Gal
	Total Dry Film Thickness, SF per Gallon (Excludes Primer)	100	-	115	SF / Gal

**2260-Smooth, 2270-Fine Texture, 2290-Course Texture*

C - Miscellaneous Surfaces

#1 • Gypsum and Keene's cement finish plaster surfaces.

Primer:	Glidden Professional | High Hide 1000 Interior Primer Sealer	1.2	-	1.3	MDFT
Finish:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	3.5	MDFT
	Total Dry Film Thickness (DFT), Mils	3.4	-	4.8	MDFT

#3 • Insulated piping.

Primer:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
Finish:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	4.0	-	8.0	MDFT

#4 • PVC piping.

Primer:	Devoe Coatings | Devguard 4160 Rust Inhibitive Primer	2.0	-	2.5	MDFT
Finish:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	4.0	-	8.0	MDFT

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Coating Schedule

3.7 Painting Schedule -

A - Metal Surfaces

- All surfaces of structural and miscellaneous steel exposed in exterior and interior locations, except for chemical feed areas.

Primer:	Devoe Coatings | Devguard 4160 Rust Inhibitive Primer	2.0	-	2.5	MDFT
Finish 1:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
Finish 2:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	6.0	-	10.5	MDFT

- All fully or partially submerged metal surfaces of screening, sludge collection, clarification, and grit removal equipment unless otherwise specified.

Primer:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
	**Total Dry Film Thickness (DFT), Mils*	14.0	-	16.0	MDFT

**Devtar 5A-HS may be applied in one (1) coat up to 20.0 MDFT to achieve required total MDFT.*

- All exposed surfaces of both new and existing cast iron and steel piping inside buildings and above grade outdoors including valves, fittings, flanges, bolts, supports, and accessories therefore and including galvanized surfaces.

Primer:	Devoe Coatings | Devguard 4160 Rust Inhibitive Primer	2.0	-	2.5	MDFT
Finish 1:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
Finish 2:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	6.0	-	10.5	MDFT

- All exposed surfaces of electrical conduit inside buildings, except banks of conduits in multiple layers hung from ceilings including fittings, boxes, supports, and accessories.

Primer:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	3.5	MDFT
Finish 1:	Devoe Coatings | Devflex 4216 Water-borne Acrylic S/G	1.5	-	4.0	MDFT
Finish 2:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	1.5	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	5.2	-	11.5	MDFT

- All exterior surfaces of cast iron and steel piping exposed or submerged in manholes, wet-wells and similar locations inducing valves, fittings, flanges, bolts, supports and accessories.

Primer:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devtar 5A-HS	7.0	-	8.0	MDFT
	**Total Dry Film Thickness (DFT), Mils*	14.0	-	16.0	MDFT

**Devtar 5A-HS may be applied in one (1) coat up to 20.0 MDFT to achieve required total MDFT.*

- All miscellaneous metal exposed in the chemical feed areas.

Primer:	Devoe Coatings | Devran 224HS Epoxy	7.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devran 224HS Epoxy	7.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	14.0	-	16.0	MDFT

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- All exposed surfaces of aluminium and galvanized duct work.

Primer:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	4.0	MDFT
Finish:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	4.4	-	8.0	MDFT

- Copper tubing including fittings and valves.

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
*Finish 1:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	8.0	-	16.0	MDFT

**If required to achieve uniform opacity and finish/sheen.*

- Polished brass or bronze.

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	8.0	-	16.0	MDFT

- All surfaces subject to extreme heat including engine exhaust piping.

(*Up to 250 Degrees F.*)

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish Int.:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish Ext.:	Devoe Coatings | Devthane 379 Aliphatic Urethane	2.0	-	3.0	MDFT
	Total Dry Film Thickness (DFT), Mils (Interior)	8.0	-	16.0	MDFT
	Total Dry Film Thickness (DFT), Mils (Exterior)	6.0	-	11.0	MDFT

(*Greater than 250 Degrees F., up to 500 Degrees F, with spikes to 1000 Degrees F.*)

Finish:	Devoe Coatings | HT-10 High Heat Aluminum	1.0	-	2.0	MDFT
	Total Dry Film Thickness (DFT), Mils (Interior/Exterior)	1.0	-	2.0	MDFT

B - Concrete and Masonry Surfaces

- Interior walls of Head-works operating floor level from operating slab to 4' above slab.

Primer:	ITW PolySpec-Futura | FB 415 Water-borne Epoxy Primer	2.0	-	5.0	MDFT
Finish:	ITW PolySpec-Futura | Geothane 520 Modified Urethane Elastomer	20.0	-	30.0	MDFT
	Total Dry Film Thickness (DFT), Mils	22.0	-	35.0	MDFT

- Where indicated on Drawings or specified: Section 07150 - Damp-proofing.

Finish:	BASF | Hydrocide 700B	70	-	100	SF / Gal
	Total Dry Film Thickness, SF per Gallon	70	-	100	SF / Gal

- Where indicated on Drawings or specified.

Primer:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
Finish:	Devoe Coatings | Devran 224HS Epoxy	4.0	-	8.0	MDFT
	Total Dry Film Thickness (DFT), Mils	8.0	-	16.0	MDFT

- Exterior, exposed concrete surface.

Primer:	Glidden Professional | Bond Prep 3030 Pigmented Bonding Primer	1.4	-	1.6	MDFT
Finish:	Glidden Professional | Decra-Flex *2260 Elastomeric Coating	100	-	115	SF / Gal
	Total Dry Film Thickness, SF per Gallon (Excludes Primer)	100	-	115	SF / Gal

**2260-Smooth, 2270-Fine Texture, 2290-Course Texture*

- Exterior, exposed masonry.

Primer:	Devoe Coatings | Bloxfil 4000 HD Block-Filler	7.0	-	14.5	MDFT
Finish:	Glidden Professional | Decra-Flex *2260 Elastomeric Coating	100	-	115	SF / Gal
	Total Dry Film Thickness, SF per Gallon (Excludes Primer)	100	-	115	SF / Gal

**2260-Smooth, 2270-Fine Texture, 2290-Course Texture*

C - Miscellaneous Surfaces

- Gypsum and Keene's cement finish plaster surfaces.

Primer:	Glidden Professional | High Hide 1000 Interior Primer Sealer	1.2	-	1.3	MDFT
Finish:	Devoe Coatings | Devflex 4020PF Water-borne Primer/Finish	2.2	-	3.5	MDFT
	Total Dry Film Thickness (DFT), Mils	3.4	-	4.8	MDFT

- Insulated piping.

Primer:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
Finish:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	4.0	-	8.0	MDFT

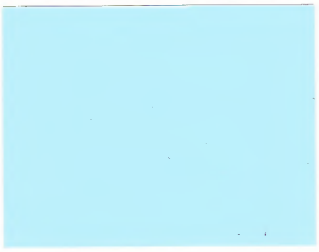
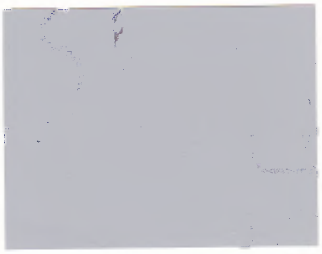
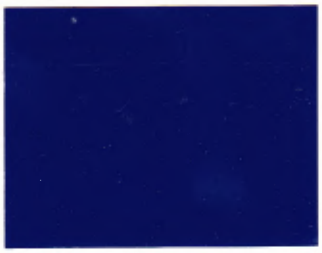
- PVC piping.

Primer:	Devoe Coatings | Devguard 4160 Rust Inhibitive Primer	2.0	-	2.5	MDFT
Finish:	Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss	2.0	-	4.0	MDFT
	Total Dry Film Thickness (DFT), Mils	4.0	-	8.0	MDFT

Contractor:
Jimmy Anderson
Applewood Painting
303/425.9071
jimmyanderson@qwestoffice.net

Document Preparation:
Bill Cave
Protective Coatings Specialist
International Paint, LLC.
720/219.1696
bill.cave@akzonobel.com

ICI DEVOE® COATINGS

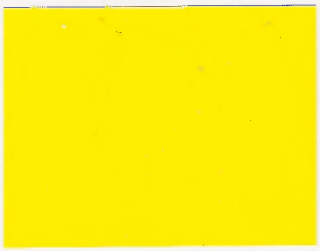
 9700 Safety Green	 9800 Safety Blue	 9600 Safety Purple	2301 Mist Gray
 5574 Light Green	 4035 Car Blue	 2531 I.M. Gray	 2973 Light Gray
 5100 Foam Green	 4100 Light Blue	 2534 Medium Gray	 2000 Aluminum Gray
 5323 Spruce	 4038 Champion Blue	 2904 Haze Gray	 6110 Machine Gray
 6650 Medium Green	 4200 National Blue	 7850 Imperial Blue	 2100 Plymouth Gray
 5517 I.M. Hunter Green	 4752 Cobalt Blue	 7460 Architectural Brown	 9903/9990 Black

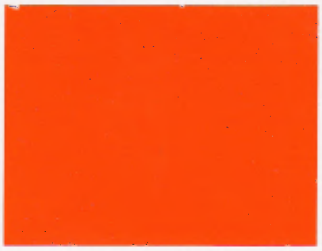
Colors illustrated approximate the appearance of the actual coating. Factors such as type of surface, lighting, texture and number of coats applied, may cause color variance.

Colors for Industry

48 Popular Colors, with thousands more available from the Master Palette® system, from ICI.


8600 Medium Yellow


9400 Safety Yellow


9200 Safety Orange


9000 Safety Red

8045 Sulfur Yellow


1600 Clay Tan


1046 Desert Sand

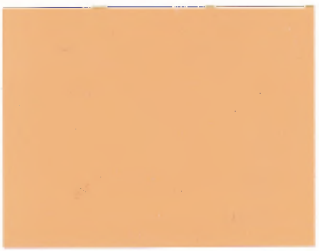

1810 Light Buff


1200 Palomino Tan

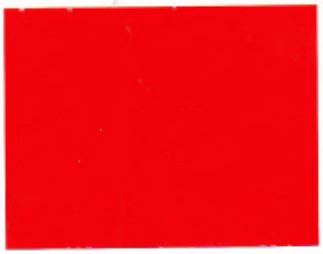

1642 Buff


1543 Prairie Beige


5300 Bayberry


1442 I.M. Buff

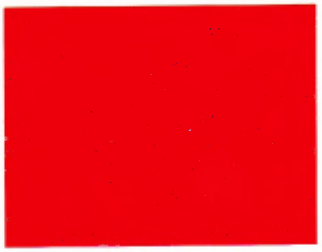

8800 Oxide Yellow

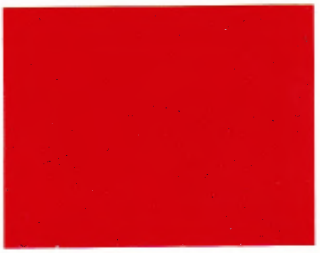

6900 International Orange


7100 Fire Red


1400 Medium Brown

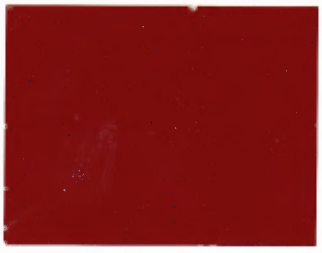

7370 Warm Brown


7522 Signal Red


7822 Red


7470 Uni-Brown


7450 I.M. Bronzetone


7821 Oxide Red


7835 I.M. Burgundy

THIS CARD REPRESENTS LEAD-FREE COLOR SELECTIONS.

International

Submittals

October 17, 2011

Harold Thompson
Wastewater Reclamation Facility
09900 Coatings Submittals

Coatings Contractor:
Applewood Painting
14000 W. 78th Avenue
Arvada, CO 80005

Coatings Manufacturer:
International Paint, LLC
1134 W. Evans Ave
Denver, CO 80223

6001 Antoine Drive / Houston TX 77091 / Tel: 720.219.1696 / Fax: 440.297.4639

AkzoNobel

International Paint LLC
Devoe Coatings
Bill Cave
Protective Coatings

1134 W. Evans Ave.
Denver, CO 80223
USA

T +1 720 219 1696
F +1 440 297 4639
bill.cave@akzonobel.com
www.akzonobel.com/international

AkzoNobel
Tomorrow's Answers Today

October 17, 2011

Applewood Painting Co.
Mr. Jimmy Anderson
14000 W. 78th Avenue
Arvada, CO 80005

Re: Harold Thompson Wastewater Reclamation Facility

Please review and consider the following International Paint/Devoe Coatings materials for use on the above referenced project. The paint and coatings submitted correspond to the standards set forth in the specifications. We verify that each of the coatings submitted are suitable for the intended use, and will provide exceptional protective performance when applied in accordance with the technical data application instructions and the specification requirements.

Thank you for your consideration. Please do not hesitate to contact me for questions, additional information or assistance.

Respectfully Submitted,

Bill Cave
Protective Coatings Specialist
International Paint LLC

International

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 1 - Metal Surfaces
Substrate: All surfaces of structural and miscellaneous steel exposed in exterior and interior locations, except for chemical feed areas.

Surface Preparation Description

SSPC SP-2:

Coat	Mils, (DFT) Low *to* High	Product Number	Product Description
	DFT, Mils		
Primer	2.0 - 2.5	4160	International Paint, LLC. Devoe Coatings | Devguard 4160 Rust-Inhibitive Alkyd Primer
	DFT, Mils		
Finish 1	2.0 - 4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic
	DFT, Mils		
Finish 2	2.0 - 4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic
	DFT, Mils		
Total DFT	6.0 - 10.5	Total Mils, DFT not less than: 6.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 2 - Metal Surfaces

Substrate: All fully or partially submerged metal surfaces of screening, sludge collection, clarification, and grit removal equipment unless otherwise specified.

Surface Preparation Description

SSPC SP-10: The blast profile should be jagged rather than "peened" and between 1.5 to 2.5 mils (38-62 microns). After blasting, vacuum or blow off all abrasive dust and ensure surface remains clean before painting.

Coat	Mils, (DFT) Low *to* High	Product Number	Product Description
	DFT, Mils		
Primer	7.0 - 8.0	5A-HS	International Paint, LLC. Devoe Coatings | Devtar 5A-HS Epoxy
	DFT, Mils		
Finish 1	7.0 - 8.0	5A-HS	International Paint, LLC. Devoe Coatings | Devtar 5A-HS Epoxy
	DFT, Mils		
NA	0.0 - 0.0	NA	
	DFT, Mils		
Total DFT	14.0 - 16.0	Total Mils, DFT not less than: 14.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 3 - Metal Surfaces

Substrate: All exposed surfaces of both new and existing cast iron and steel piping inside buildings and above grade outdoors including valves, fittings, flanges, bolts, supports, and accessories therefore and including galvanized surfaces.

Surface Preparation Description

SSPC SP-2:

Coat	Mils, (DFT) Low *to* High	Product Number	Product Description
	DFT, Mils		
Primer	2.0 - 2.5	4160	International Paint, LLC. Devoe Coatings | Devguard 4160 Rust-Inhibitive Alkyd Primer
	DFT, Mils		
Finish 1	2.0 - 4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic
	DFT, Mils		
Finish 2	2.0 - 4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic
	DFT, Mils		
Total DFT	6.0 - 10.5	Total Mils, DFT not less than: 6.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 4 - Metal Surfaces

Substrate: All exposed surfaces of electrical conduit inside buildings, except banks of conduits in multiple layers hung from ceilings including fittings, boxes, supports, and accessories.

Surface Preparation Description

SSPC SP-2:

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	2.2	-	3.5	4020PF	International Paint, LLC. Devoe Coatings | Devflex 4020PF Water-borne Acrylic
	DFT, Mils				
Finish 1	1.5	-	4.0	4216HP	International Paint, LLC. Devoe Coatings | Devflex 4216HP Water-borne Acrylic
	DFT, Mils				
Finish 2	1.5	-	4.0	4216HP	International Paint, LLC. Devoe Coatings | Devflex 4216HP Water-borne Acrylic
	DFT, Mils				
Total DFT	5.2	-	11.5	Total Mils, DFT not less than: 5.2	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 6 - Metal Surfaces

Substrate: All exterior surfaces of cast iron and steel piping exposed or submerged in manholes, wet wells and similar locations inducing valves, fittings, flanges, bolts, supports and accessories.

Surface Preparation Description

SSPC SP-10: The blast profile should be jagged rather than "peened" and between 1.5 to 2.5 mils (38-62 microns). After blasting, vacuum or blow off all abrasive dust and ensure surface remains clean before painting.

Coat	Mils, (DFT) Low *to* High	Product Number	Product Description
	DFT, Mils		
Primer	7.0 - 8.0	5A-HS	International Paint, LLC. Devoe Coatings | Devtar 5A-HS Epoxy
	DFT, Mils		
Finish 1	7.0 - 8.0	5A-HS	International Paint, LLC. Devoe Coatings | Devtar 5A-HS Epoxy
	DFT, Mils		
NA	0.0 - 0.0	NA	
	DFT, Mils		
Total DFT	14.0 - 16.0	Total Mils, DFT not less than:	14.0

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

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Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 7 - Metal Surfaces
Substrate: All miscellaneous metal exposed in the chemical feed areas.

Surface Preparation Description

SSPC SP-2:

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	7.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy
	DFT, Mils				
Finish	7.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	14.0	-	16.0	Total Mils, DFT not less than: 14.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

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Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 9 - Metal Surfaces
Substrate: All exposed surfaces of aluminum and galvanized duct work.

Surface Preparation Description

SSPC SP-2:

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	2.2	-	4.0	4020PF	International Paint, LLC. Devoe Coatings | Devflex 4020PF Water-borne Acrylic
	DFT, Mils				
Finish	2.2	-	4.0	4020PF	International Paint, LLC. Devoe Coatings | Devflex 4020PF Water-borne Acrylic
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	4.4	-	8.0	Total Mils, DFT not less than: 4.4	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

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Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
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Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 10 - Metal Surfaces
Substrate: Copper tubing including fittings and valves.

Surface Preparation Description

SSPC SP-2:

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer/ Finish	4.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	4.0	-	8.0	Total Mils, DFT not less than: 4.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

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Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 11 - Metal Surfaces
Substrate: Polished brass or bronze.

Surface Preparation Description

SSPC SP-2:

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	4.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy
	DFT, Mils				
Finish	4.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	8.0	-	16.0	Total Mils, DFT not less than: 8.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 18, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 12 - Metal Surfaces
Substrate: All surfaces subject to extreme heat including engine exhaust piping.

Surface Preparation Description

SSPC SP-10: Blast profile on steel should be 0.25 - 1 mils (7 to 25 microns) in depth and be of a sharp, jagged, nature as opposed to a "peen" pattern (from shot blasting). Surfaces must be free of grit dust.

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	4.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy (*up to 250 degrees F.*)
	DFT, Mils				
Interior Finish	4.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy (*up to 250 degrees F.*)
Exterior Finish	2.0	-	3.0	379	International Paint, LLC. Devoe Coatings | Devthane Polyurethane (*up to 250 degrees F.*)
	DFT, Mils				
Total DFT	8.0	-	16.0	Total Mils, DFT not less than: 8.0 / 6.0 if Exterior	

Alternate, if over 250 degrees F.

	DFT, Mils				
Finish 2	1.0	-	2.0	NA	International Paint, LLC. Devoe Coatings | HT-10 High Heat Aluminum (*Temperatures greater than 250 degrees F. up to 1000 degrees F.*)
	DFT, Mils				
Total DFT	8.0	-	16.0	Total Mils, DFT not less than: 8.0 / 1.0 if HT-10	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 9, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
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Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 1 - Concrete and Masonry Surfaces
Substrate: Interior walls of Headworks operating floor level from operating slab to 4' above slab.

Surface Preparation Description

SSPC SP-13:

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	2.0	-	5.0	FB415	ITW PolySpec-Futura Futura-Bond 415 Water-Borne Epoxy Primer
	DFT, Mils				
Finish	20.0	-	30.0	520	ITW PolySpec-Futura Geothane 520 Modified Urethane Elastomer
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	22.0	-	35.0	Total Mils, DFT not less than: 22.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 18, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 2 - Concrete and Masonry Surfaces
Substrate: Where indicated on drawings or specified section 07150-Dampproofing.

Surface Preparation Description

Surface should be free of oil, grease, dirt, laitance and loose material. Dry surfaces must be dampened with water and kept damp until application.

Coat	Mils, (DFT) High *to* Low	Product Number	Product Description
	SF Per Gallon		
Finish	100 - 70	700B	BASF Hydrocide 700B (BASF)
NA	0.0 - 0.0	NA	
NA	0.0 - 0.0	NA	
	SF Per Gallon		
Total DFT	100 - 70	Total SF Per Gallon, not less than:	100.0

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 9, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 3 - Concrete and Masonry Surfaces
Substrate: Where indicated on drawings or specified.

Surface Preparation Description

:

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	4.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy
	DFT, Mils				
Finish	4.0	-	8.0	224HS	International Paint, LLC. Devoe Coatings | Devran 224HS Epoxy
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	8.0	-	16.0	Total Mils, DFT not less than: 8.0	

Contractor Information:		Document Preparation:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 4 - Concrete and Masonry Surfaces
Substrate: Exterior, exposed concrete surfaces.

Surface Preparation Description

Surface should be free of oil, grease, dirt, laitance and loose material. Dry surfaces must be dampened with water and kept damp until application.

Coat	Mils, (DFT) Low to High	Product Number	Product Description
	DFT, Mils		
Primer	1.4 - 1.6	3030	Glidden Professional Bond Prep 3030 Pigmented Bonding Primer
	SF Per Gallon		
Finish	115 - 100	*2260	Glidden Professional Decra-Flex Elastomeric Coating **2260-Smooth, 2270-Fine Texture, 2290-Course Texture*
	DFT, Mils		
NA	0.0 - 0.0	NA	
	SF Per Gallon		
Total DFT	115 - 100	Total SF per gallon, not less than: 115, Excludes Primer	

Contractor Information:		Document Information:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 5 - Concrete and Masonry Surfaces
Substrate: Exterior, exposed masonry.

Surface Preparation Description

Surface should be free of oil, grease, dirt, laitance and loose material. Dry surfaces must be dampened with water and kept damp until application.

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	7.0	-	14.5	4000	International Paint, LLC. Devoe Coatings | Bloxfil 4000 HD Block-Filler
	SF Per Gallon				
Finish	115	-	100	*2260	Glidden Professional Decra-Flex Elastomeric Coating **2260-Smooth, 2270-Fine Texture, 2290-Course Texture*
	DFT, Mils				
NA	0.0	-	0.0	NA	
	SF Per Gallon				
Total DFT	115	-	100	Total SF per gallon, not less than: 115, Excludes Primer	

Contractor Information:		Document Information:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 1 - Miscellaneous Surfaces
Substrate: Gypsum and Keene's cement finish plaster surfaces.

Surface Preparation Description

Surface should be clean, dry and free of dust.

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	1.2	-	1.3	1000	Glidden Professional High Hide Interior Primer Sealer 1000-1200
	DFT, Mils				
Finish	2.2	-	3.5	4020PF	International Paint, LLC. Devoe Coatings | Devflex 4020PF Water-borne Acrylic
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	3.4	-	4.8	Total Mils, DFT not less than: 3.4	

Contractor Information:		Document Information:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 3 - Miscellaneous Surfaces
Substrate: Insulated Piping

Surface Preparation Description

Surface should be clean, dry and free of dust.

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	2.0	-	4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss
	DFT, Mils				
Finish	2.0	-	4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	4.0	-	8.0	Total Mils, DFT not less than: 4.0	

Contractor Information:		Document Information:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Coating System Data Sheet

Project Information:		Specification Information:	
Project:	**Harold Thompson Wastewater Reclamation Facility**	*Reference:*	Project Manual
Location:	Fountain, CO	*Date:*	May 12, 2011
Submittal Date:	October 17, 2011	*Division:*	09900
		Page(s):	09 90 00 - (9 to 11)

System No./Surface Description

System No: 4 - Miscellaneous Surfaces
Substrate: PVC Piping.

Surface Preparation Description

SSPC SP-1: Surface should be abraded, clean, dry and free of dust.

Coat	Mils, (DFT) Low	to	High	Product Number	Product Description
	DFT, Mils				
Primer	2.0	-	4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss
	DFT, Mils				
Finish	2.0	-	4.0	659	International Paint, LLC. Devoe Coatings | Devflex 659 Water-borne Acrylic Gloss
	DFT, Mils				
NA	0.0	-	0.0	NA	
	DFT, Mils				
Total DFT	4.0	-	8.0	Total Mils, DFT not less than: 4.0	

Contractor Information:		Document Information:	
Company Name:	Applewood Painting Co.	*Date:*	October 8, 2011
Contact:	Jimmy Anderson		
Street:	14000 W. 78th Avenue	*By:*	Bill Cave
Street 2:			Protective Coatings Specialist
City, St, Zip	Arvada, CO 80005		International Paint, LLC
phone:	(303) 425-9071	*phone:*	(720) 219-1696
fax:	(303) 507-1246	*fax:*	(440) 297-4639
email:	*jimmyanderson@qwestoffice.net*	*email:*	*bill.cave@akzonobel.com*

Product Data Sheets

Devtar® 5A-HS

Epoxy

PRODUCT DESCRIPTION

A high performance, two-component, coal-tar free, chemically-cured high-build epoxy coating

INTENDED USES

For use in areas where coal tar epoxy is normally used. Uniquely formulated to provide corrosion protection for steel and masonry surfaces exposed to water immersion or chemical splash, spillage and fumes. Self-priming on most surfaces.

Ideal for use on underground steel storage tanks, underground steel piping, in sewage and waste water treatment plants, petroleum refineries, chemical plants, pulp and paper mills, fertilizer plants, hydro and fossil fuel power plants, and underground coal & salt mines. Excellent for fresh and salt water immersion on steel and concrete structures on bridges, pilings, basins, and pits. Can be used on concrete block and poured concrete surfaces in commercial and industrial facilities.

Meets or exceeds the performance requirements of Corps of Engineers C-200; SSPC Paint 16.

PRACTICAL INFORMATION FOR DEVTAR 5A-HS

Color	Black
Gloss Level	Semi Gloss
Volume Solids	79%± 2%
Typical Thickness	6-8 mils (150-200 microns) dry equivalent to 7.6-10.1 mils (190-253 microns) wet
Theoretical Coverage	181 sq.ft/US gallon at 7 mils d.f.t and stated volume solids 4.50 m²/liter at 175 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush

Drying Time

			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
41°F (5°C)	*[1]	48 hours	20 hours	90 days
59°F (15°C)	*[1]	18 hours	10 hours	90 days
77°F (25°C)	*[1]	5 hours	5 hours	90 days

[1] Not applicable

REGULATORY DATA

Flash Point	Part A 72°F (22°C); Part B 68°F (20°C); Mixed 68°F (20°C)
Product Weight	10.8 lb/gal (1.30 kg/l)
VOC	0.81 lb/gal (98 g/lt) EPA Method 24

See Product Characteristics section.

SURFACE PREPARATION

Surfaces must be dry, clean, free of oil, grease, form release agents, curing compounds, laitance, other foreign matter and be structurally sound. Remove all loose paint, mortar spatter, mill scale, and rust.

New Surfaces:

Steel
For immersion service, abrasive blast to minimum SSPC-SP10 or ISO8501-1:2007 Sa2½. The blast profile should be jagged rather than "peened" and between 1.5 to 2.5 mils (38-62 microns). After blasting, vacuum or blow off all abrasive dust and ensure surface remains clean before painting. For atmospheric service, abrasive blast to minimum SSPC-SP6 or ISO8501-1:2007 Sa2. For maximum performance, apply over Cathacoat 302H primer.

Concrete Block
Remove loose aggregate and repair major voids. Self prime with Devtar 5A-HS

Concrete Floors, Poured Concrete:
Cure at least 30 days. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Self prime with Devtar 5A-HS

Previously Painted Surfaces:
Use Devprep 88 or other suitable cleaner followed by a thorough water rinsing before applying Devtar 5A-HS over old, painted surfaces. Ensure that all existing coatings are soundly adhering. Test patches should be made to determine compatibility.

APPLICATION

Mixing

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified.

(1) Agitate Base (Part A) with a power agitator.
(2) Agitate Curing Agent (Part B) with a power agitator.
(3) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Allow the mixed material to stand 15 minutes before use.

Mix Ratio

4 part(s) : 1 part(s) by volume

Working Pot Life

41°F (5°C)	59°F (15°C)	77°F (25°C)
6 hours	6 hours	5 hours

Airless Spray	Recommended	Tip Range 19-25 thou (0.48-0.63 mm) Total output fluid pressure at spray tip not less than 3000 psi (211 kg/cm²) See Product Characteristics section.
Air Spray (Conventional)	Recommended	See Product Characteristics section.
Brush	Suitable	Only for small areas or touch ups
Roller	Suitable	Only for small areas or touch ups
Thinner	T-0 Thinner (or acetone)	See Product Characteristics section.
Cleaner	T-0 Thinner (or acetone)	

Work Stoppages

Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with T-0 Thinner (or acetone). Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.

Clean Up

Clean all equipment immediately after use with T-10 Thinner (or acetone). It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

PRODUCT CHARACTERISTICS

Advantages:

- Does not contain coal tar – no coal tar "burns"
- Ease of application
- Excellent chemical resistance – alkalies, dilute acids, sewage, salt brine, liquid fertilizers, crude oil, etc.
- Excellent water immersion resistance to fresh and salt water
- Abrasion resistant
- Good aged flexibility
- Outperforms coal tar epoxies in all respects, including improved recoatability, toxicity, film embrittlement and application properties
- May be topcoated with urethane for good appearance

For compliance to VOC regulations, thin as follows:
South Coast Air Quality Management District (SCAQMD): Thinning is not required, however, if thinning is desired, add acetone or T-0 thinner at no more than 5% by volume.
All other areas: If thinning is required, 5% or less by volume of T-10 thinner can be added depending on local VOC and air quality regulations. Any solvent addition should be made after the two components are thoroughly mixed.

Clean up: Use T-10 Thinner except in SCAQMD use acetone, T-0 Thinner or or solvent in compliance with local VOC and air quality regulations.

Not recommended for prolonged contact with strongly oxidizing chemicals, diluted alkalies, ketones, esters, alcohols or for lining tanks used to store "white" petroleum products.

In common with all epoxies, Devtar 5A-HS will chalk and discolor on exterior exposure. However, these phenomena are not detrimental to anti-corrosive performance.

For immersion or underground service use two coats of Devtar 5A-HS at 8 mils (200 microns) dry per coat.

Surfaces coated with this product may become slippery when wet. For additional slip resistance in areas of pedestrian traffic, add one pound per gallon of coarse pumice or other texturing material.

For airless spray application: Ideally, fluid hoses should not be less than 3/8" ID and not longer than 50 feet to obtain optimum results. Longer hose length may require an increase in pump capacity, pressure, and/or thinning.

For air spray application: Use a fluid tip of 0.070" (1.78mm') or larger, a professional grade conventional gun and an air cap with good break-up. The fluid pressure should be kept low, with just enough air pressure to get good break-up of the coating.

Care should be taken that proper and uniform film thicknesses are obtained. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

Low molecular weight reactive additives, which will form part of the film during normal ambient cure conditions, will also effect VOC values determined using EPA Method 24.

SYSTEMS COMPATIBILITY

The following primers are recommended for Devtar 5A-HS:

Cathacoat 302H	Cathacoat 302HA
Cathacoat 302HB	Cathacoat 304L
Cathacoat 304V	

The following topcoats are recommended for Devtar 5A-HS:

Devthane 349QC	Devthane 359
Devthane 359H	Devthane 378
Devthane 379	Devthane 389

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Part A		Part B	
		Vol	Pack	Vol	Pack
	5 US gal	4 US gal	6 US gal	1 US gal	1 US gal
	For availability of other pack sizes contact International Protective Coatings				
SHIPPING WEIGHT	Unit Size	Part A		Part B	
	5 US gal	48 lb		12.1 lb	
STORAGE	Shelf Life	24 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.			

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www.international-pc.com

HT-10

Modified Silicone

PRODUCT DESCRIPTION

A single component, air-drying finish coat designed to protect steel surfaces operating at temperatures up to 500ºF (260ºC).

The aluminum version will withstand peak temperatures up to 1000ºF (538ºC).

INTENDED USES

For protection of equipment such as stacks, breechings, boiler casings, furnaces, driers, process vessels, piping, manifolds, radiators and heat exchangers.

PRACTICAL INFORMATION FOR HT-10

Color	Black, Aluminum
Gloss Level	Matte
Volume Solids	49.50%± 2%
Typical Thickness	1-2 mils (25-50 microns) dry equivalent to 2-4 mils (51-101 microns) wet
Theoretical Coverage	401 sq.ft/US gallon at 2 mils d.f.t and stated volume solids 10 m²/liter at 50 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Air Spray

Drying Time

			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
77°F (25°C)	*[1]	16 hours	4 hours	

[1] Not applicable

REGULATORY DATA

Flash Point	39°F (4°C)
Product Weight	8.0 lb/gal (0.96 kg/l)
VOC	3.49 lb/gal (419 g/lt) EPA Method 24

See Product Characteristics section.

SURFACE PREPARATION

Surfaces must be dry, clean, free of oil, grease, form release agents, curing compounds, laitance, other foreign matter and be structurally sound. Remove all loose paint, mortar spatter, mill scale, and rust.

New Surfaces:

Steel
Blast to near-white metal surface cleanliness in accordance with SSPC-SP10 or ISO8501-1:2007 Sa2½. Blast profile on steel should be 0.25 - 1 mils (7 to 25 microns) in depth and be of a sharp, jagged, nature as opposed to a "peen" pattern (from shot blasting). Surfaces must be free of grit dust. HT-10 should be applied to cleaned surfaces as soon as possible to prevent re-rusting or contamination.

Where necessary, remove weld spatter and where required smooth weld seams and sharp edges.

Previously Painted Surfaces

HT-10 may not be applied to existing coatings. All coatings should be removed and substrates treated as for New Surfaces.

APPLICATION

Mixing	This material is a one component coating and should always be mixed thoroughly with a power agitator before application. Prior to application, strain mixed material through 60 mesh screen or other suitable filtration device.	
Airless Spray	Recommended	Tip Size 11 thou (0.27 mm) Total output fluid pressure at spray tip not less than 3000psi (211 kg/cm²) See Product Characteristics section.
Thinner	T-5 Thinner (or acetone)	See Product Characteristics section.
Cleaner	T-5 Thinner	See Product Characteristics section.
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with T-5 Thinner or acetone. Partially filled containers may show surface skinning and/or a viscosity increase of the material after storage.	
Clean Up	Clean all equipment immediately after use with T-5 Thinner or acetone. It is good working practice to periodically clean equipment during the course of the working day. Frequency of cleaning will depend upon temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.	

PRODUCT CHARACTERISTICS

Advantages:

- Operating temperatures of 500ºF (260°C) with peaks to 1000ºF (538°C)
- Excellent application properties
- Does not require a bake cure to achieve good film properties if operating at temperatures up to 500ºF (260°C)

HT-10 is typically applied at 1 mil (25 microns) per coat. Two coats are recommended when used alone, or one coat when used over an inorganic zinc primer.

Do not exceed recommended film thickness.

For application over inorganic zinc rich primers, allow full cure of the inorganic zinc primer prior to application of HT-10. Recommended corrosion resistant primer is HT-8 heat resistant coating. Maximum continuous dry temperature resistance when applied over an inorganic zinc primer is 500ºF (260ºC).

For compliance to VOC regulations, thin as follows:

California & The Ozone Transport Commission (OTC) States): If thinning is required, add acetone at no more than 5% by volume.

All other areas: If thinning is required, 10% or less by volume of T-5 Thinner can be added depending on local VOC and air quality regulations. Any solvent addition should be made after the product is thoroughly mixed.

For airless spray application, use fluid hose 3/8" I.D. with maximum 50 ft. length. Pressure pots or pumps should be kept at same level or above spray guns. Keep fluid pressures to minimum.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

The following primers are recommended for HT-10:

Cathacoat 304L
Cathacoat 304V
HT-8

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Vol	Pack
	1 US gal	1 US gal	1 US gal
	5 US gal	5 US gal	5 US gal
	For availability of other pack sizes contact International Protective Coatings		
SHIPPING WEIGHT	Unit Size		
	1 US gal	9.5 lb	
	5 US gal	46.1 lb	
STORAGE	Shelf Life	12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.	

Disclaimer

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Devran® 224HS

Epoxy

PRODUCT DESCRIPTION

A high performance, multi-purpose, surface tolerant, two-component chemically-cured epoxy semi-gloss coating for industrial or high performance architectural coating (HIPAC) applications. For use on properly prepared steel or masonry surfaces.

INTENDED USES

Ideal for structural steel, piping, tanks, and equipment in chemical, fertilizer, power plants, petroleum refineries, pulp and paper mills, water and sewage treatment plants and mining operations. Can also be used in the hard service areas of correctional facilities, schools, commercial and restaurant kitchens were a high performance architectural coating (HIPAC) is required.

Special Qualifications: Performance alternate for Federal Specifications TT-C-550, TT-C-535B, MIL-C-22750F, and MIL-P-23377F Type I.

PRACTICAL INFORMATION FOR DEVRAN 224HS

Color	Off White, ready mix and custom colors
Gloss Level	Semi-gloss
Volume Solids	75%± 2%
Typical Thickness	4-8 mils (100-200 microns) dry equivalent to 5.3-10.7 mils (133-267 microns) wet
Theoretical Coverage	201 sq.ft/US gallon at 6 mils d.f.t and stated volume solids 5 m²/liter at 150 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush

Drying Time

			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
41°F (5°C)	*[1]	42 hours	20 hours	30 days[2]
59°F (15°C)	*[1]	16 hours	8 hours	30 days[2]
68°F (20°C)	*[1]	9 hours	6 hours	30 days[2]
77°F (25°C)	*[1]	5 hours	3 hours	30 days[2]

[1] Not applicable
[2] Where overcoating is with epoxy intermediates / finishes or self overcoating.
Overcoating intervals will be reduced where Devran 224HS is to be overcoated with approved finishes; see Product Characteristics for further information.

REGULATORY DATA

Flash Point	Part A 100°F (38°C); Part B 100°F (38°C); Mixed 100°F (38°C)
Product Weight	12.5 lb/gal (1.5 kg/l)
VOC	1.76 lb/gal (212 g/lt) EPA Method 24

See Product Characteristics section.

SURFACE PREPARATION

Surfaces must be dry, clean, free of oil, grease, form release agents, curing compounds, laitance, other foreign matter and be structurally sound. Remove all loose paint, mortar spatter, mill scale, and rust. All direct to metal coatings provide maximum performance over blasted surfaces. There are situations and cost limitations which preclude blasting. Devran 224HS was designed to provide excellent protection over less than ideal surface preparation. The minimum standard for non-immersion service is SSPC-SP2 or ISO8501-1:2007 St2; for immersion service the minimum standard is SSPC-SP10 or ISO8501-1:2007 Sa2½. These minimum surface preparation standards apply to steel that has been previously abrasive blasted, coated and deteriorated. Where very rusty surfaces still remain after cleaning use Pre-Prime 167 Sealer before application of Devran 224HS. All direct to metal coatings provide maximum performance over near-white blasted surfaces.

New Surfaces

Steel:
Blast to near-white metal surface cleanliness in accordance with SSPC-SP10 or ISO8501-1:2007 Sa2½ for immersion service, or commercial blast cleanliness in accordance with SSPC-SP6 or ISO8501-1:2007 Sa2 for non-immersion service. Blast profile on steel should be 1.5 to 2.5 mils (38-62 microns) in depth and be of a sharp, jagged nature as opposed to a "peen" pattern (from shot blasting). Surfaces must be free of grit dust.

Concrete Block:
Remove loose aggregate and repair voids. Fill with Devran 224HS or Tru-Glaze-WB 4015 blockfiller.

Concrete Floors, Poured Concrete:
Cure at least 30 days. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Prime with Pre-Prime 167 or Devran 224HS

Galvanized Steel:
Remove dirt and oils by solvent cleaning or with Devprep 88 Cleaner or other suitable cleaner followed by a thorough water rinsing. Prime with Devran 203 or Devran 205 epoxy primers for non-immersion. For severe moisture condition, abrasive blasting is recommended before priming with Devran 224HS or Devran 201H epoxy primer.

Previously Painted Surfaces
Old coatings should be tested for lifting. If lifting occurs, remove the coating. Otherwise, scuff sand glossy areas and aged epoxy coatings. Clean aged epoxy or urethane coatings with Devprep 88 Cleaner or other suitable cleaner followed by thorough rinsing. Remove cracked and peeling paint. Prime bare areas with appropriate primer.

APPLICATION

Mixing

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed, it must be used within the working pot life specified.

(1) Agitate Base (Part A) with a power agitator.
(2) Combine entire contents of Initiator (Part B) with Base (Part A) and mix thoroughly with power agitator.

Allow the mixed material to stand 15 minutes before use.

Mix Ratio	1 part(s) : 1 part(s) by volume	
Airless Spray	Recommended	Tip Range 19-25 thou (0.48-0.63 mm) Total output fluid pressure at spray tip not less than 3000 psi (211 kg/cm²) See Product Characteristics section.
Air Spray (Conventional)	Recommended	See Product Characteristics section.
Brush	Suitable	
Roller	Suitable	
Thinner	Not normally required	See Product Characteristics section.
Cleaner	T-10 Thinner	In the SCAQMD region, use acetone or other solvent in compliance with local VOC and air quality regulations.

Work Stoppages

Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with suitable solvent. Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.

Clean Up

Clean all equipment immediately after use with appropriate solvent. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

PRODUCT CHARACTERISTICS

Advantages:

- Excellent corrosion protection
- Resists splash and spillage of solvents, alkalis, salts, moisture, oils, greases, foodstuffs and detergents
- Cold weather cure - application down to 25°F (-4°C)
- Surface tolerant
- Low VOC
- Self-priming on steel or masonry
- Abrasion resistant
- High build/high solids coating

Tinting: Tint the appropriate base (Part A) with industrial colorants. Mix thoroughly before curing agent (Part B) is added.

For airless spray application: Ideally, fluid hoses should not be less than 3/8" ID and not longer than 50 feet to obtain optimum results. Longer hose length may require an increase in pump capacity, pressure, and/or thinning.

For air spray application: Use a fluid tip of 0.070" (1.78mm') or larger, a professional grade conventional gun and an air cap with good break-up. The fluid pressure should be kept low, with just enough air pressure to get good break-up of the coating.

Application at low temperatures: For substrate temperatures between 25ºF (-4ºC) and 41ºF (5ºC), two one-pint containers of DC060A0000 may be added to a 10 gallon kit of Devran 224HS. Thoroughly mix the DC060A0000 additive into the Part B (converter) with a power mixer. It should be noted that use of the cold weather additive will shorten the pot life.

In common with all epoxies, Devran 224HS will chalk and discolor on exterior exposure. However, these phenomena are not detrimental to anti-corrosive performance. Devran 224HS may yellow during application and cure if exposed to the combustion by-products of improperly vented fossil fuel burning heaters.

For compliance to VOC regulations, thin as follows:
South Coast Air Quality Management District (SCAQMD) available in DC224FN3501 only: If thinning is desired, add acetone or T-0 Thinner at no more than 5% by volume.
California outside of SCAQMD: If thinning is desired, add T-10 Thinner at no more than 5% by volume.
All other areas: If thinning is desired, 10% or less by volume of T-10 Thinner can be added depending on local VOC and air quality regulations. Any solvent addition should be made after the two components are thoroughly mixed.

Where Devran 224HS is to be overcoated with Devthane 349QC, 378, 378H, 379 or 379H the following overcoating intervals will apply;

	Minimum	Maximum
41ºF (5ºC)	20 hours	10 days
59ºF (15ºC)	8 hours	7 days
68ºF (20ºC)	6 hours	5 days
77ºF (25ºC)	3 hours	3 days

Where Devran 224HS is to be overcoated with Devthane 359, 359H or 389 the following overcoating intervals will apply;

	Minimum	Maximum
41ºF (5ºC)	20 hours	15 days
59º (15ºC)	8 hours	10 days
68ºF (20ºC)	6 hours	7 days
77ºF (25ºC)	3 hours	7 days

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances. Low molecular weight reactive additives, which will form part of the film during normal ambient cure conditions, will also effect VOC values determined using EPA Method 24.

SYSTEMS COMPATIBILITY

The following primers are recommended for Devran 224HS:

Bar-Rust 231	Bar-Rust 231LV	Bar-Rust 235
Bar-Rust 235V	Cathacoat 302H	Devran 201H
Devran 203	Devran 223	

The following topcoats are recommended for Devran 224HS:

Devthane 349QC	Devthane 359	Devthane 359H
Devthane 378	Devthane 378H	Devthane 379
Devthane 379H	Devthane 389	

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Part A		Part B	
		Vol	Pack	Vol	Pack
	1 US gal	1 US gal	1 US gal	1 US gal	1 US gal
	5 US gal	5 US gal	5 US gal	5 US gal	5 US gal
	For availability of other pack sizes contact International Protective Coatings				

SHIPPING WEIGHT	Unit Size	Part A	Part B
	1 US gal	14 lb	12.7 lb
	5 US gal	70.1 lb	63.6 lb

STORAGE	Shelf Life	24 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.

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Devthane® 379

Polyurethane

PRODUCT DESCRIPTION

A high performance, two-component chemically-cured aliphatic urethane gloss finish.

INTENDED USES

For use on properly prepared and primed steel, concrete or steel floors, masonry, drywall, plaster, metal, concrete block, galvanized, aluminum, poured concrete and glazed brick. Ideal for use on exterior or interior structural steel, piping, metal buildings, control cabinetry, conveyors, pumps, storage tank exteriors, motors, machinery, and transportation vehicles.

Can also be used in the hard service areas of food processing plants, dairies, schools, restaurants, hospitals, correctional facilities, factories, stadiums, arenas, and amusement parks.

PRACTICAL INFORMATION FOR DEVTHANE 379

Color	White, custom and ready-mix colors
Gloss Level	Gloss
Volume Solids	63%± 2%
Typical Thickness	2-3 mils (50-75 microns) dry equivalent to 3.2-4.8 mils (79-119 microns) wet
Theoretical Coverage	401 sq.ft/US gallon at 2.5 mils d.f.t and stated volume solids 10 m²/liter at 63 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush

Drying Time

			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
41°F (5°C)	*	32 hours	10 hours	2 weeks
59°F (15°C)	*	24 hours	6 hours	2 weeks
77°F (25°C)	*	16 hours	3 hours	2 weeks

REGULATORY DATA

Flash Point	Part A 81°F (27°C); Part B 124°F (51°C); Mixed 81°F (27°C)
Product Weight	11.0 lb/gal (1.32 kg/l)
VOC	2.59 lb/gal (311 g/lt) EPA Method 24

See Product Characteristics section.

SURFACE PREPARATION

Surfaces must be dry, clean, free of oil, grease, form release agents, curing compounds, laitance, other foreign matter and be structurally sound. Remove all loose paint, mortar spatter, mill scale, and rust. To ensure optimum appearance, any primer or undercoat should be smooth and free of any surface defects such as runs, dry spray or heavy orange peel.

New Surfaces:

Steel
Apply over surfaces which have been suitably prepared and primed. Consult the relevant primer datasheet for advice on surface preparation requirements. Prime using: Bar-Rust 231, Bar-Rust 233H, Bar-Rust 235 or Devran 224HS

Galvanized Steel and Aluminum
Remove dirt, grease, oil or other surface contamination by solvent cleaning or with Devprep 88 cleaner or other suitable cleaner, followed by a thorough water rinsing. Prime using: Devran 201H, Devran 203 or Devran 205

Concrete Block
Remove loose aggregate and repair major voids. Fill with: Devran 220, Devran 224HS, Bar-Rust 231, Bar-Rust 235, Bar-Rust 233H thinned 25% with recommended thinner, Tru-Glaze-WB 4015 or Bloxfil 4000

Concrete Floors, Poured Concrete
Cure at least 30 days. pH must be 10.0 or lower before painting. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Prime using: Devran 220, Devran 224HS, Bar-Rust 231, Bar-Rust 233H, Bar-Rust 235, Tru-Glaze-WB 4030 or Pre-Prime 167

Drywall:
Prime with a premium acrylic latex vapor barrier primer sealer.

Previously Painted Surfaces:
Poorly adhering old coatings should be removed. Wash to remove contaminants. Rinse thoroughly with water and allow to dry. Dull glossy areas by light sanding. Remove all debris. Prime bare areas with primer specified under New Surfaces.

Fiberglass
Solvent wipe, scuff sand and solvent wipe again. Prime with Devran 201H epoxy.

APPLICATION

Mixing
Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed, it must be used within the working pot life specified.
(1) Agitate Base (Part A) with a power agitator.
(2) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Mix Ratio
4 part(s) : 1 part(s) by volume

Working Pot Life

41°F (5°C)	59°F (15°C)	77°F (25°C)
6 hours	5 hours	4 hours

Airless Spray	Recommended	Tip Range 11-17 thou (0.27-0.43 mm) Total output fluid pressure at spray tip not less than 3000 psi (211 kg/cm²) See Product Characteristics section.
Air Spray (Conventional)	Recommended	See Product Characteristics section.
Brush	Suitable	
Roller	Suitable	
Thinner	T-9 Thinner or T-17 Thinner	See Product Characteristics section.
Cleaner	T-9 Thinner	

Work Stoppages
Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with T-9 Thinner. Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.

Clean Up
Clean all equipment immediately after use with T-9 Thinner. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

PRODUCT CHARACTERISTICS

Advantages:

- Excellent gloss and color retention
- Excellent abrasion and chemical resistance
- Easily applied by brush, roller or spray
- Wide color selection
- Excellent resistance to marring, chipping, and scratching
- Contains ultraviolet light absorber

Cure Acceleration: Urethane catalyst 070A0000 may be used to accelerate cure at or below 40°F (5°C). The addition of one or two ounces per gallon will decrease the dry hard time approximately one-third to one-half respectively at 40°F (5°C). The pot life will be reduced one-half to three-fourths.

Thinning is not normally required. However, depending on local VOC and air quality regulations, small amounts (5% or less) of T-9 Thinner may be added. Small amounts (5% or less) of T-17 Thinner may improve roller, brush or spray application. If local VOC and/or air quality regulations are not an issue, and depending on the individual set-up of the spray equipment, additional thinning may be allowed to obtain the desired individual finish.

Maximum continuous dry temperature resistance for Devthane 379 is 250°F (121°C). Exposure to continuous operating temperatures towards the maximum dry temperature resistance of this product may induce some discoloration.

Devthane 379 reacts with atmospheric moisture, and as such when in the can should remain covered at all times. Failure to keep tin covered will result in skinning of unused material and loss of pot life.

Devthane 379 may be tinted with industrial colorants; contact International Paint for further information. Add colorants only to the base portion and mix thoroughly before adding the converter portion.

For airless spray application: Ideally, fluid hoses should not be less than 3/8" ID and not longer than 50 feet to obtain optimum results. Longer hose length may require an increase in pump capacity, pressure, and/or thinning.

For air spray application: Use a professional grade conventional gun with a 0.070" (1.78mm) fluid tip or larger. Adjust fluid and air pressure to achieve a good spray pattern.

Care should be taken that proper and uniform film thicknesses are obtained. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

The following primers are recommended for Devthane 379:

Bar-Rust 231	Bar-Rust 233H
Bar-Rust 235	Bloxfil 4000
Cathacoat 302H	Cathacoat 302HA
Cathacoat 302HB	Cathacoat 303
Cathacoat 313	Devguard 4160
Devguard 4360	Devran 201H
Devran 203	Devran 205
Devran 224HS	Devran 261QC
Tru-Glaze-WB 4015	Tru-Glaze-WB 4030

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Part A		Part B	
		Vol	Pack	Vol	Pack
	1 US gal	0.8 US gal	1 US gal	0.2 US gal	1 US quart
	5 US gal	4 US gal	5 US gal	1 US gal	1 US gal
	For availability of other pack sizes contact International Protective Coatings				
SHIPPING WEIGHT	Unit Size	Part A		Part B	
	1 US gal	10.8 lb		2.7 lb	
	5 US gal	47.2 lb		11.9 lb	
STORAGE	Shelf Life	12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.			

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FUTURA
rnw Futura Coatings

TECHNICAL DATA

Revised Date: 01/2011
Replaces Date: 08/2010

FUTURA-BOND 415

WATER-BORNE EPOXY PRIMER

Product Description

A two component, water-borne epoxy primer with outstanding adhesion to most concrete, masonry, and wood surfaces, including damp concrete.

Features

- Convenient 1:1 mixing ratio.
- High solids.
- Low VOC.
- Low Odor.
- Water Borne technology.
- Exceptional adhesion to damp concrete and masonry.
- Excellent for application on wood which may contain more than trace levels of moisture.
- Spray and roller application.

Recommended Uses

As a primer for concrete, masonry, wood and other recommended surfaces prior to the application of polyurethane and polyurea products.

Typical Properties

Solids by Volume	70% ±2
Volatile Organic Compounds	0.7 lb/gal (84 g/l)
Thinned 10% with Isopropyl Alcohol Thinned 15% with Isopropyl Alcohol	1.4 lb/gal (162 g/l) 1.6 lb/gal (196 g/l)
Theoretical Coverage @ 70% (SBV)	1123 ft^2 @ 1 mil (2.7 m^2 @ 1 mm)
Recommend DFT	2 – 5 mils (50 – 100 µ)
Number of Coats	Normally 1
Mix Ratio (by volume)	1 "A" : 1 "B"
Flash Point (PMCC)	Part A 53° F (12°C) Part B >200°F (93°C)
Shelf Life @ 60-90°F (16-32°C)	12 months
Color	Yellow (only)

Ordering Information

Packaging:	2 gal & 10 gal kits
Shipping Weight:	11 lb/gal (5 kg/gal)

APPLICATION INFORMATION
FUTURA-BOND 415

Surface Preparation

Remove all oil, grease or other contaminants from the surface to be coated in accordance with SSPC-SP 1.

Concrete: Must be cured a minimum of 28 days at 70°F (21°C) and 50% RH, or equivalent. Remove fins and other protrusions by stoning or grinding. Abrasive blast in accordance with SSPC-SP 13 or ASTM D4258 to open all surface voids and remove all form oils, incompatible curing agents, hardeners, laitance, other foreign materials and produce a angular surface texture similar to that of medium grit sandpaper. Blow or vacuum off abrasive and dust.
To fill holes, voids and to repair corroded or worn areas use FUTURA-BOND 320 GEL.

Other: Contact ITW Futura Coatings for specific recommendations.

Mixing

Power mix each component separately, then combine at a ratio of 1"A" to 1 "B" by volume and power mix to a smooth consistency.

Thinning

Required for spray applications. Use Isopropyl Alcohol per the following guidelines.

Application	Isopropyl Alcohol	Water*
Squeegee	0-10%	0-10%
Roller / Brush	10%	0-10%
Airless Spray	15%	NR
Conventional Spray	15%	NR

*Use only in areas where solvents cannot be used, thinning with clean potable water is acceptable but will require longer cure times.

Pot Life

Material Temperature	No Thinner	Thinned 15% with Isopropyl Alcohol
60°F (15°C)	2 hrs	2 ½ hrs
75°F (24°C)	80 min	2 hrs
90°F (32°C)	30 min	50 min

Listed times are based on a lab sample. Batch mixes may produce shorter times.

Application Conditions

	Normal	Minimum	Maximum
Material	75-90°F (24-32°C)	65°F (18°C)	100°F (38°C)
Surface	75-90°F (24-32°C)	45°F (7°C)	110°F (43°C)
Ambient	75-90°F (24-32°C)	45°F (7°C)	110°F (43°C)
Humidity	30-50%	0%	85%

Note: Application to concrete and masonry when the surface temperature is falling and not rising will help minimize pinholing caused by outgassing. Use airless spray followed by back rolling or squeegee to work the primer into pinholes.

Application Equipment

Airless:

Pump Ratio	30:1 min	**Tip Size**	.024 - .031"
Material Hose	3/8" ID min 100' max	**Tip Pressure psi**	2800 - 3600

Conventional: Pressure pot with dual regulators, 3/8" I.D. minimum material hose, .070" fluid tip and appropriate air cap.

Brush: Use industrial grade brush suitable for water borne coatings.

Roller: Short to medium nap with phenolic core.

Clean Up

Use Isopropyl Alcohol.

Cure Time

These times are based on a 30-50% RH. Excessive film thickness, cooler temperatures, high relative humidity or inadequate ventilation will require longer cure times and could result in incomplete cure.

	Surface Temperature		
	50-69°F (10-21°C)	70-89°F (21-32°C)	90-110°F (32-43°C)
Surface dry	7 hours	3 ½ hours	2 hours
Hard Film	24 hours	8 hours	5 hours
Recoat (min)	20 hours	6 hours	4 ½ hours
Recoat (max)	48 hrs	24 hours	16 hours
Full cure	6 days	72 hours	48 hours

- If the material has exceeded its maximum recoat time or full cure time contact ITW Futura Coatings for recommended recoating procedures.

Safety Information

- Read the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information.
- Do not apply material in enclosed areas without adequate air exchange and ventilation.
- All application personnel must use respirators rated for organic vapors, or in confined spaces wear fresh air respirators or fresh air hoods.
- Wear protective clothing, gloves and eye protection.
- Breathing fumes or contact with the skin may cause severe allergic reactions.
- **This product is intended for industrial use by properly trained professional applicators only.**

Storage Conditions

- Store drums and pails in a dry location at 55-90°F (11-32°C).
- Materials **must** be kept above 50°F (10°C).
- **DO NOT ALLOW TO FREEZE.**

ITW FUTURA COATINGS, 1685 GALT INDUSTRIAL BLVD., ST LOUIS, MO, (314) 733-1110

FUTURA
itw Futura Coatings

TECHNICAL DATA

Revised Date: 02/2008
Replaces Date: 01/2008

GEOTHANE® 520

MODIFIED URETHANE ELASTOMER

Product Description

A 100% solids, standard cure, two component modified polyurethane elastomer. It forms a tough, monolithic, seamless, highly elastic membrane with excellent water and chemical resistance. Does not require plural component spray equipment.

Features

- 300% elongation allows bridging of normal shrinkage cracks in concrete.
- High Build – Up to 30 mils per coat.
- Spray and/or roller application.
- Good resistance to UV degradation.

Recommended Uses

As a Primary or Secondary Containment lining on concrete or steel surfaces to contain leaks and spills of wastewater, fuels, and a wide range of chemicals. It is excellent as a landfill cap or environmental cover to control leaching and wind erosion. It is also excellent as a repair material for existing pond liners and torn or failed seams in plastic sheet linings and for repairs to GEOTHANE 5020.

Primers

Steel: FUTURA-BOND 610 HS
Concrete: FUTURA-BOND 415
Other: Contact ITW Futura Coatings for recommendations.

Typical Properties

Solids by Volume	100%
Volatile Organic Compounds	0.0 lb/gal (0.0 g/l)
Theoretical Coverage	1604 ft^2 @ 1 mil (3.8 m^2 @ 1 mm)
Recommend DFT (Do not exceed 30 mils per coat)	20 – 100 mils (0.5 – 2.5 mm)
Number of Coats	Normally 2
Mix Ratio (by volume)	1 "A" : 1 "B"
Flash Point (PMCC)	>200°F (93°C)
Shelf Life @ 60-90°F (16-32°C)	9 months
Color Standard	Black & Tan

Specification Data

Elongation – ASTM D 412	300%
Tensile Strength – ASTM D 412	900 psi (6.2 mPa)
Abrasion Resistance ASTM D 4060 CS 17 / 1000 g / 1000 cycles	23 mg loss
Hardness – ASTM D 2240	65 Shore "A"
Flexibility – ASTM D 1737	-55°F (-48°C) Passes ½" mandrel bend
Tear Resistance ASTM D 624 Die "C"	240 – 370 pli
Permeability – ASTM E 96 Procedure B – 50 mils dft	0.12 perms

Ordering Information

Packaging:	10 gal kits
Shipping Weight:	10.6 lb/gal (4.9 kg/gal)

APPLICATION INFORMATION
GEOTHANE 520

Surface Preparation

Remove all oil, grease or other contaminants from the surface to be coated in accordance with SSPC-SP 1.

Steel: Apply over clean, dry, properly applied FUTURA-BOND 610 HS or other recommended primer.

Concrete: Apply over clean, dry, properly applied FUTURA-BOND 415 or other recommended primer. Note: Rough concrete may require surfacing with FUTURA-BOND 320 GEL prior to the application of the FUTURA-BOND 415.

Plastic Sheet Liners / FRP / Other: Contact ITW Futura Coatings for specific surface preparation and primer recommendations.

Mixing

Power mix Part B separately, then combine 1 "A" to 1 "B" by volume and power mix to a smooth consistency.

Thinning

DO NOT THIN!

Pot Life

Material Temperature	Time
50-60°F (10-15°C)	45 – 60 minutes
70-80°F (21-27°C)	40 – 50 minutes
90-100°F (32-38°C)	25 – 35 minutes

Application Conditions

	Normal	Minimum	Maximum
Material	75-90°F (24-32°C)	65°F (18°C)	150°F (65°C)
Surface	75-90°F (24-32°C)	45°F (7°C)	110°F (43°C)
Ambient	75-90°F (24-32°C)	45°F (7°C)	110°F (43°C)
Humidity	30-50%	0%	85%

Surface temperature must be 5°F (3°C) above the dew point.

Application Equipment

Airless:

Pump Ratio	56:1 min	**Tip Size**	0.027-0.035"
Material Hose*	3/8" ID min 100' max	**Tip Pressure psi**	5000 +

* Use of insulated hose will help prevent overheating in the sun.

Roller: Medium or short nap with phenolic core

Clean Up

Use MEK or a 1:1 blend of MEK and Toluol.

Cure Time

These times are based on a 30-50% RH. High film thickness, cooler temperatures or inadequate ventilation will require longer cure times and could result in premature failure.

	Surface Temperature		
	50-69°F (10-21°C)	70-89°F (21-32°C)	90-110°F (32-43°C)
Surface dry	7 hours	3 hours	2 hours
Hard Film	30 hours	16 hours	9 hours
Recoat (min)	10 hours	4 hours	3 hours
Recoat (max)	4 days	3 days	30 hours
Full cure	10 days	6 days	4 days

- If the material has exceeded its maximum recoat time by less than 24 hours wipe with MEK and recoat within 10 minutes.
- If the maximum recoat time has been exceeded by more than 24 hours, contact ITW Devcon Coatings for recommended recoat procedures.
- **CAUTION: Do not exceed 30 mils wet film thickness per coat as material will not cure properly. Subsequent coats should be applied after the minimum recoat time has been reached and prior to the maximum recoat window being attained.**

Safety Information

- Read the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information.
- Do not apply material in enclosed areas without adequate air exchange and ventilation.
- All application personnel must use fresh air respirators or fresh air hoods.
- Wear protective clothing, gloves and eye protection.
- Breathing fumes or contact with the skin may cause severe allergic reactions.
- **This product is intended for industrial use by properly trained professional applicators only.**

Storage Conditions

- Urethane coatings need to be protected from moisture contamination. Store drums and pails in a dry location at 60-90°F (16-32°C).
- Drums **must** be kept sealed at all times with a positive feed dry air, nitrogen blanket or desiccant cartridge system.
- Materials **must** be kept above 50°F (10°C).

ITW FUTURA COATINGS, 1685 GALT INDUSTRIAL BLVD., ST LOUIS, MO, (314) 733-1110

Devflex® 659

Water-borne Acrylic

PRODUCT DESCRIPTION

An advanced technology, premium quality, gloss waterborne acrylic coating for use as a protective maintenance rust inhibitive direct-to-metal (DTM) finish coat.

INTENDED USES

Ideal for the exterior of tanks, structural steel, and piping. Can be applied directly to interior or exterior steel and weathered galvanized steel in institutional, residential, and light industrial areas.

PRACTICAL INFORMATION FOR DEVFLEX 659

Color	White and custom colors
Gloss Level	Gloss
Volume Solids	41% ± 2%
Typical Thickness	2-4 mils (50-100 microns) dry equivalent to 4.9-9.8 mils (122-244 microns) wet
Theoretical Coverage	219 sq.ft/US gallon at 3 mils d.f.t and stated volume solids 5.50 m²/liter at 75 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush

Drying Time

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
77°F (25°C)	*	4 hours	4 hours	Extended

* not applicable

REGULATORY DATA

Flash Point	>214°F (101°C)
Product Weight	10.4 lb/gal (1.25 kg/l)
VOC	93 g/lt

See Product Characteristics section.

SURFACE PREPARATION

All surfaces must be sound, dry, clean and free of oil, grease, wax, polish, mildew, form release agents, curing compounds, efflorescence, loose and flaking paint and other foreign substances. Scuff sanding is required on glossy, hard, slick or dense surfaces in exterior areas or other areas which are subject to high levels of moisture.

New Surfaces:

Steel and Aluminum
Best results are obtained over a surface abrasive blasted to commercial blast cleanliness (SSPC-SP6) or ISO 8501-1:2007 Sa2. Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning. Prime with Devflex 659 or Devflex 4020PF primer. For maximum corrosion protection, prime with Devguard 4160 or Devguard 4360 primers, depending on local VOC regulations. When using colors tinted with more than 2 oz /gal. of suitable colorants, a primer is recommended. When using as a DTM finish without a primer, a minimum of two coats is recommended for best corrosion resistance.

Previously Painted Surfaces:
Wash to remove contaminants. Rinse thoroughly with water and allow to dry. Abrade glossy areas to remove gloss. Remove loose paint. Scrub heavy chalk exterior areas and overhead areas such as eaves with soap and water. All existing mildew must be removed by washing with a solution of 16 oz. (473 ml) liquid household bleach and two oz. (59 ml) non ammoniated liquid detergent per gallon (3.785 L) of water. Rinse surfaces clean with water and allow to dry for 24 hours.

APPLICATION

Mixing	This material is a one component coating and should always be mixed thoroughly with a power agitator before application.	
Airless Spray	Recommended	Use a 15 thou (0.38mm) tip size and adjust pressure as needed.
Brush	Suitable	Multiple coats may be required to achieve specified film thickness.
Roller	Suitable	Multiple coats may be required to achieve specified film thickness.
Thinner	Do not thin	
Cleaner	Warm soapy water	
Work Stoppages	Do not allow material to remain in hoses, guns or spray equipment. Thoroughly flush all equipment with clean water.	
Clean Up	Thoroughly flush all equipment with clean water . All unused material should be stored in tightly closed containers. Partially filled containers may show surface skinning after storage.	

PRODUCT CHARACTERISTICS

Advantages:

- Direct-to-metal
- Ideal for shop applications
- Low VOC
- Low odor and water clean-up
- Fast dry and recoat
- Resists flash rust
- Corrosion resistant
- Easy application by brush, roll or spray
- Excellent gloss and color retention
- High hiding
- Non-yellowing
- Dry fall properties

Devflex 659 should not be used where direct hand contact is expected to be heavy, such as hand railings.

For optimum application and drying characteristics, the air and substrate temperature should be greater than 50ºF (10ºC) and relative humidity less than 85%.

Dry overspray can be wiped or washed from most surfaces. Satisfactory dry-fall performance depends upon the height of work, weather conditions and equipment adjustment.

Low temperature and high humidity are of particular concern. Test for each application as follows: Spray from 15 to 25 feet towards paint container. The material then should readily wipe off. Note: Heat can fuse dry overspray to surfaces. Always clean dry overspray from hot surfaces before fusing occurs. Be aware that exterior surface temperatures can be higher than air temperature.

Spray application is preferred for application to bare steel to ensure adequate film build and protection.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

The following primers are recommended for Devflex 659:

Cathacoat 302H	Devflex 4020PF
Devguard 4160	Devguard 4180
Devguard 4360	Devran 201H
Devran 203	Devran 205
Devran 223	Devshield 4130
Rustguard 4140	Tru-Glaze-WB 4015
Tru-Glaze-WB 4030	

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Vol	Pack
	1 US gal	1 US gal	1 US gal
	5 US gal	5 US gal	5 US gal
	For availability of other pack sizes contact International Protective Coatings		
SHIPPING WEIGHT	Unit Size		
	1 US gal	12.1 lb	
	5 US gal	58.2 lb	
STORAGE	Shelf Life	12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.	

Disclaimer

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BASF
The Chemical Company

PRODUCT DATA

7 07 11 00 **Dampproofing**

HYDROCIDE® 600, 700, 700B

Waterborne emulsified-asphalt dampproofing compounds

Description

Hydrocide® 600, 700 and 700B are cold-applied water-based emulsified-asphalt dampproofing and vapor-retarding coatings for use on "green" or slightly damp surfaces.

Hydrocide® 600 is fiber-free for application by brush or spray.

Hydrocide® 700 is reinforced with long fibers for application by trowel.

Hydrocide® 700B is reinforced with short fibers for application by brush or spray.

Yield

Hydrocide® 600:
70 – 100 ft²/gallon per coat
(1.72 – 2.45 m²/L per coat)

Hydrocide® 700:
25 ft²/gallon at 1/16" wet film
(0.61 m²/L at 1.6 mm wet film)

12.5 ft²/gallon at 1/8" wet film
(0.31 m²/L at 3 mm wet film)

Hydrocide® 700B:
30 – 35 ft²/gallon per coat
(0.74 – 0.87 m²/L per coat)

Packaging

Hydrocide® 600 and Hydrocide® 700B:
53 gallon (200.9 L) drums

5 gallon (18.93 L) cans

Hydrocide® 700:
53 gallon (200.9 L) drums

5 gallon (18.93 L) cans

Features

Features	Benefits
• Suitable for "green" or slightly damp surfaces	Speeds dampproofing of new foundation walls
• Nonflammable	Minimizes fire hazards during application
• Water clean up	User friendly; enhances production
• Flexible	Withstands normal expansion and contraction
• Wide service temperature range, -40 to 150° F (-40 to 66° C)	Suitable for most climates

Color

Black

Shelf Life

1 year when properly stored.

Storage

Store in unopened containers in a cool, clean, dry area. Do not allow these materials to freeze in the container; do not store below 35° F (2° C).

Where to Use

APPLICATION

- Foundations
- Faces of cavity walls

LOCATION

- Exterior surfaces (below grade)

SUBSTRATE

- Concrete
- CMU
- Exterior-grade gypsum board
- Bonding polystyrene insulation to many substrates

How to Apply

Surface Preparation

Surface should be free of oil, grease, dirt, laitance and loose material. Dry surfaces must be dampened with water and kept damp until application.

Application

1. Apply Hydrocide® 700 with a trowel.

2. Apply Hydrocide® 600 and 700B by brush, roller or spray with the proper equipment. Consult the spray equipment manufacturer for more information.

EXTERIOR SURFACES BELOW GRADE—DENSE SURFACES

1. Apply Hydrocide® 700 in 1 coat by trowel. Apply 700B in 2 coats by brush, roller, or spray. Allow first coat to dry tacky before applying second coat.

2. Fill in all crevices and grooves, making sure coating is continuous and free from breaks and pinholes. Carry coating over exposed top and outside edge of footing. Spread around all joints, grooves, and slots and into all chases, corners, reveals, and soffits. Bring the coating to finished grade.

3. BACKFILLING: Place backfill at least 24 – 48 hours after application, but within 7 days. Do not rupture or damage the film or displace the coating or membranes. Some situations may require protection board.

Sonneborn

Technical Data

Composition

Hydrocide® 600, 700, and 700B are asphalt-based emulsions.

Compliances

- Hydrocide® 600 complies with ASTM D 1187, Type 1, and ASTM D 1227, Type 3, Class I
- Hydrocide® 700 complies with ASTM D 1227, Type 2, Class I and ASTM D 1187, Type 1
- Hydrocide® 700B complies with ASTM D 1227, Type 2, Class I, and ASTM D 1187, Type 1

Typical Properties

PROPERTY	VALUE
Solids by weight, %	
Hydrocide® 600	52
Hydrocide® 700	54
Hydrocide® 700B	53
Solids by volume, %	
Hydrocide® 600	50
Hydrocide® 700	52
Hydrocide® 700B	51

Test Data

PROPERTY	RESULTS	TEST METHODS
Viscosity		
Hydrocide® 600, KU	95 – 105	Stormer
Hydrocide® 700 KU	325 – 335	Penetrometer, 16 oz cup, 150 g weight
Hydrocide® 700B, KU	110 – 120	Stormer

EXTERIOR SURFACES BELOW GRADE—POROUS SURFACES

Three alternate techniques are equally effective.

1. MEMBRANE SYSTEM: Apply 1 coat of Hydrocide® 700 or 2 coats of Hydrocide® 700B as described above under Dense Surfaces. Within 4 hours, apply Sonoshield® Reinforcing Fabric or glass-fabric membrane cloth over all surfaces of coating, overlapping all edges at least 3" (76 mm). Press firmly into place without wrinkles. Within 24 hours, apply an additional coat of Hydrocide® 700 or Hydrocide® 700B. Allow to set and backfill as described above under Backfilling.

2. TWO-COAT SYSTEM: Apply a prime coat of Hydrocide® 600 asphalt emulsion, cut 20% by volume with clean water. Allow prime coat to dry tacky to touch and apply 1 coat of Hydrocide® 700 as described above under Dense Surfaces. Allow to set and backfill as described above under Backfilling.

3. PARGE COAT SYSTEM: Apply a parge coat of cement mortar to the block wall, carrying the parge coat from the bottom of the footings to grade level and forming a cove at the junction of the wall and footing. Allow to cure (typically 7 days). Apply either 1 trowel coat of Hydrocide® 700 or 2 brush, roller, or spray coats of Hydrocide® 700B as described above under Dense Surfaces. Allow to set and backfill as described above under Backfilling.

INTERIOR SURFACES ABOVE GRADE—VAPOR RETARDER

1. Hydrocide® 600, 700, and 700B may be used individually or in combination for dampproofing the exterior face of interior walls in cavity wall construction.

2. Hydrocide® 700 and Hydrocide® 700B are excellent vapor retarders. Apply in 1 coat, carrying the coating in and around all joints, grooves, and slots, following all reveals and soffits of windows and continuing 12" (305 mm) out on adjoining partitions and soffits. Hydrocide® 600 may also be used. Use 1, 2, or more coats, as needed, depending on amount of vapor retarding called for.

3. Allow to set. If walls are to receive hard wall plaster, use furring strips or metal lath.

4. Hydrocide® 700 and 700B have been used successfully for bonding polystyrene insulation board to a wide variety of substrates. On-site testing with actual substrate is recommended.

Clean Up

Clean tools and equipment immediately with hot, soapy water. Cured material can be removed with Reducer 990.

For Best Performance

- Keep from freezing in the container.
- Do not apply at temperatures below 40° F (4° C) or when temperatures are expected to fall to 40° F (4° C) in the next 24 hours.
- Protect from rain until coating has set.
- Hydrocide® products should be protected or covered within 7 days of application.
- Hydrocide® products should not be exposed to long-term UV.
- Not intended as a waterproofing membrane. Refer to HLM® 5000 (Form No. 1017900).
- Do not use Hydrocide® 700 and 700B as plaster-bonds on ceilings or under Portland cement mixes on ceilings.
- ASA specifications require furring or lath or similar design features to ensure absolute adhesion of plaster.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

HYDROCIDE® 600, 700 AND 700B

Caution

Hydrocide® 600, 700, and 700B contain asphalt petroleum.

Risks

May cause skin, eye and respiratory irritation. Ingestion may cause irritation.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Wash thoroughly after handling. Use only with adequate ventilation. Keep container closed when not in use. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or if used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations. All label warnings must be observed until the container is commercially cleaned or reconditioned.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, remove completely with dry cloth, then wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product does not knowingly contain materials listed by the state of California as known to cause cancer, birth defects or other reproductive harm.

VOC Content

0.20 lbs/gal or 24 g/L, less water and exempt solvents.

For medical emergencies only,
call ChemTrec (1-800-424-9300).

BASF Construction Chemicals, LLC – Building Systems

889 Valley Park Drive
Shakopee, MN, 55379

www.BuildingSystems.BASF.com

Customer Service 800-433-9517
Technical Service 800-243-6739

Form No. 1017895 9/07
Printed on recycled paper including 10% post-consumer fiber.

High Hide
Interior Primer Sealer
1000-1200

Previously ICI Paints PREP & PRIME® Hi-Hide Wall
Interior Water-Based Primer Sealer

DESCRIPTION

Our premium quality latex wall primer for use under latex or alkyd paints on properly prepared new or previously painted drywall, masonry and wood surfaces. Specially formulated to provide excellent hide, sealing and holdout when topcoated. **GLIDDEN PROFESSIONAL™** High Hide Interior Primer Sealer has excellent application properties when applied by brush, roller or spray. Dries quickly to proper hardness for easy sanding. Ideal for all residential and commercial applications.

CERTIFICATIONS

AS OF 7/1/2009, COMPLIES WITH	
MPI#	50
LEED	Yes
CHPS	Yes
GREENGUARD	No
AIM	Yes
OTC/LADCO	Yes
CARB	Yes
SCAQMD	Yes

PERFORMANCE DATA

CHARACTERISTIC:	RESULTS:
Enamel Hold Out*	★★★★★★★★☆☆
Adhesion to Substrate*	★★★★★★☆☆☆☆
Dry Hide*	★★★★★★★★☆☆
Sag Resistance	16-20 mils wet
Air and Substrate Application Temperature	50° F (10° C) - 90° F (32° C)
Service Temperature Limits	200° F (93° C)
Storage Temperature	40° F (4° C) - 95° F (35° C)

*Performance ratings are based on product comparisons to other products in that sheen range, performed at 77° F (25° C) 50% RH. Rating scale is from 1-10, 10 being the highest rating.

COMPOSITION

- Vinyl-Acrylic Resin
- Titanium Dioxide and Extender Pigments
- Not manufactured with lead or mercury containing materials.

SPECIFICATION

Color:
White, (tintable, limit up to 2 oz/gal)

Clean-up Solvent:
Soap and water

Finish: Flat

Density:
11.00 lbs/gal (1.32 kg/L)

Solids:
Volume - 29% +/- 1%
Weight - 46% +/- 1%

VOC:
100 g/L (0.84 lbs/gal) maximum
Refer to MSDS for regulatory VOC content of complete product line

Theoretical Coverage @ 1 mil dry:
466 sq ft/gal (11 m^2/L)

Practical Coverage:
Apply at 350-400 sq ft/gal (9-10 m²/L). Actual coverage may vary depending on substrate and application method.

Recommended Film Thickness:
4.0 - 4.6 mils wet
1.2 - 1.3 mils dry

Airless Spray Application:
Pressure - 2000 psi
Tip - .015" - .019"

Dry Time 77°F (25°C) & 50% RH:
To touch - 30 minutes
To recoat - 2 hours

Flame Spread Rating:
Class A (0-25) on non-combustible surfaces

Flash Point:
None

Shelf Life:
1 year minimum - unopened

SURFACE PREPARATION

GENERAL SURFACE PREPARATION:
All surfaces must be sound, dry, clean and free of oil, grease, dirt, rust, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

NEW SURFACES:

Drywall:
- Joint compound must dry for two days before priming
- Prime with this product

Wood:
- Set nails, fill with latex spackle
- Sand smooth
- Dust clean
- Prime with this product

Concrete, Masonry and Plaster:
- Cure at least 30 days before painting
- pH must be 10.0 or lower
- Roughen slick poured or precast concrete and remove sealers by chemical cleaning or abrasive method such as sandsweeping
- Rinse thoroughly with water and allow to dry
- Remove loose aggregate
- Prime with this product or 3030 Concrete Coatings Bond-Prep Pigmented Bonding Primer
- Fill concrete block with 3010 Concrete Coatings Block Filler
- Prime plaster with 3210 GRIPPER® Interior Exterior Primer Sealer

Steel:
- Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning
- Prime with Devflex 4020PF Direct-to-Metal Primer, DEVGUARD® 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

Galvanized Metal and Aluminum:
- Clean off oils and other contaminants
- Prime with 3210 GRIPPER Interior Exterior Primer Sealer, Devflex 4020PF Direct-to-Metal Primer, DEVGUARD 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

PREVIOUSLY PAINTED SURFACES:
- Wash to remove contaminants
- Rinse thoroughly with water and allow to dry
- Dull glossy areas by light sanding
- Remove sanding dust
- Remove loose paint
- Prime bare areas with primer specified under **NEW SURFACES**
- Porous flat finishes must be sealed with this paint

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear an NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

DIRECTIONS FOR USE

TINTING:
May be tinted toward the finish coat color with up to two oz/gal of DRAMATONE™ colorants.

SPREADING RATE:
Apply at 350-400 sq ft/gal (9-10 m²/L). Actual coverage may vary depending on substrate and application method.

APPLICATION:
Mix thoroughly before use. May be applied by brush, roller or airless spray. No thinning required. For airless spray, use a .015"-.019" tip at 2000 psi, adjust pressure as needed. Do not apply when the surface or air temperature is below 50ºF (10ºC). Provide good ventilation and warmth for normal drying.

DRYING TIME:
At 77ºF (25ºC) and 50% R.H., dries to touch in 30 minutes and to sand or to recoat in two hours. Low temperature, high humidity, thick films or poor ventilation will increase these times.

CLEAN-UP:
Clean hands and tools immediately with warm, soapy water. Clean spills right away with a damp cloth.

PRECAUTIONS

WARNING! CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. HARMFUL IF SWALLOWED. CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. For emergency information call (800) 545-2643. **Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.** If sanding, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. Ensure fresh air entry during application and drying. Avoid contact with eyes and skin. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID**: For skin contact, wash thoroughly with soap and water. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Remove contaminated clothing. For eye contact, flush immediately with plenty of water for at least 15 minutes. **Get medical attention.** If swallowed, **get medical attention immediately**. If inhalation causes discomfort, remove to fresh air. If discomfort persists or breathing difficulty occurs, get medical attention. **KEEP FROM FREEZING.** DS1-0106

SHIPPING

FREIGHT CLASSIFICATION:
Paint, Freezable

PACKAGING:
1 gallon (3.785 L)
5 gallons (18.925 L)

FLASH POINT:
None

DECRA-FLEX™ 300 Exterior Elastomeric Coating 2260 Smooth, 2270 Fine, 2290 Coarse

Previously ICI Paints DECRA-FLEX™ 300 Elastomeric Coating System

DESCRIPTION

GLIDDEN PROFESSIONAL™ DECRA-FLEX™ 300 paint is a premium quality, high build, elastomeric waterborne coating, available in Smooth, Fine and Coarse textures. The unique technology enables GLIDDEN PROFESSIONAL DECRA-FLEX 300 Smooth Exterior Flat Elastomeric Coating to form a hard dirt-resistant shell on the outside, while remaining elastic at its core. Provides a long lasting weather-resistant finish on exterior, above grade vertical masonry, stucco and poured concrete. It provides a waterproof film, even against 98 mph wind-driven rain, yet breathes to allow entrapped moisture vapor to escape, preventing blistering. Superior elongation properties allow the film to expand and contract over existing hairline cracks without the reoccurrence of cracking through the film. Use as an intermediate and finish coat for new construction and maintenance on architectural, commercial and industrial structures.

CERTIFICATIONS

AS OF 7/1/2009, COMPLIES WITH	
MPI#	113*, 132*
LEED	N/A
CHPS	No
GREENGUARD	No
AIM	Yes
OTC/LADCO	Yes
CARB	Yes
SCAQMD	Yes

* Results for 2260 Smooth

COMPOSITION

- 100% Acrylic Resin
- Titanium Dioxide and Extender Pigments
- Not manufactured with lead or mercury containing materials.

SPECIFICATION

Color:
White (tintable, limit 2 oz/gal) & Deep Base

Clean-up Solvent:
Soap and water

Finish:
Flat

Density:

Smooth	11.12 lbs/gal	(1.33 kg/L)
Fine	11.42 lbs/gal	(1.37 kg/L)
Coarse	11.32 lbs/gal	1.36 kg/L)

Solids:	**Volume**	**Weight**
Smooth	43% ± 1%	59% ± 1%
Fine	44% ± 1%	61% ± 1%
Coarse	48% ± 1%	63% ± 1%

VOC:

Smooth	100 g/L (0.84 lbs/gal) maximum
Fine	100 g/L (0.84 lbs/gal) maximum
Coarse	100 g/L (0.84 lbs/gal) maximum

Theoretical Coverage @ 1 mil dry:

Smooth	697 sq ft/gal	(17 m^2/L)
Fine	711 sq ft/gal	(17 m^2/L)
Coarse	775 sq ft/gal	(19 m^2/L)

Practical Coverage:
On smooth surfaces and repaint work, apply at 100-115 sq ft/gal (2.5-2.8 m^2/L) per coat depending on surface texture and porosity. On filled block apply at 80 sq ft/gal (2.0 m^2/L). On split face and fluted block, apply at 60 sq ft/gal (1.3 m^2/L) per coat.

Recommended Film Thickness:

Smooth	14.0-27.0 mils wet	6.0-12.0 mils dry
Fine	14.0-27.0 mils wet	7.0-13.5 mils dry
Coarse	14.0-27.0 mils wet	7.0-13.5 mils dry

Spray Application:
See Directions for Use Section for Specific Spray Application Recommendations.

Dry Time 77°F (25°C) & 50% RH:
To touch – 4 Hours
To recoat – 24 hours

Flame Spread Rating:
Class A (0-25) on non-combustible surfaces

Flash Point:
None

Shelf Life:
1 year minimum - unopened

PERFORMANCE DATA

Property (1)	Test Method	Results
Resistance to Wind Driven Rain	TT-C-555B, Para. 4.4.7	No moisture penetrates to substrate
Elongation	ASTM D 2370	>300%
Low Temperature Flexibility	ASTM D 522, @ 10°F	Passes 1/8" mandrel bend
Water Vapor Permeance	ASTM D 1653	30 perms
Salt Spray Resistance	ASTM B 117, 500 hours	No change
Mildew Resistance (2)	ASTM D 3273/3274	No growth
Freeze/Thaw Resistance	ASTM D 2243	Passes 5 freeze/thaw cycles

Notes:
1. Results for 2260 Smooth
2. Mildew resistance indicates that the product contains agents which inhibit the growth of mildew on the surface of the paint film.

SURFACE PREPARATION

GENERAL SURFACE PREPARATION:
All surfaces must be sound, dry, clean and free of oil, grease, dirt, rust, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances. Cure masonry at least 30 days before painting. Substrate pH must be 10.0 or lower.

NEW SURFACES:

Concrete, Stucco and Masonry:
- Clean by high pressure water wash (minimum 2000 psi) to remove chalk and foreign substances
- Roughen slick poured or precast concrete and remove sealers by chemical cleaning or abrasive method such as sandsweeping. Rinse thoroughly with water and allow to dry
- Remove loose aggregate
- Prime tilt-up concrete with 6001 Hydrosealer Exterior Primer
- Other masonry surfaces may be primed with 6001 Hydrosealer Exterior Primer or 3030 Concrete Coatings Bond-Prep Pigmented Bonding Primer
- Fill concrete block with 3010 Concrete Coatings Block Filler

Split Face Block:
- Fill with 3010 Concrete Coatings Block Filler
- Product may be used self-priming on split face block, used as a primer under itself

Fluted Block:
- Prime with 6001 Hydrosealer Exterior Primer or 3030 Concrete Coatings Bond-Prep Pigmented Bonding Primer

Fiber Cement Board:
- Prime entire surface and all edges with 6001 Hydrosealer Exterior Primer
- Caulk with an elastomeric caulk

Wood:
- Spot prime pine knots with 6001 Hydrosealer Exterior Primer
- Countersink nails, prime entire surface with 6001 Hydrosealer Exterior Primer
- Slight discoloration on staining woods such as redwood or cedar is normal
- If discoloration is considerable, apply a second coat of 6001 Hydrosealer Exterior Primer or for improved protection prime with 2110 Stain Stomper Exterior Primer Sealer
- Caulk with an elastomeric caulk

Steel, Galvanized Metal and Aluminum:
- Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning
- Clean off oils and other contaminants
- Prime with Devflex 4020PF Direct-to-Metal Primer, DEVGUARD® 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

PREVIOUSLY PAINTED SURFACES:
- Wash to remove contaminants
- Rinse thoroughly with water and allow to dry
- Dull glossy areas by light sanding
- Remove sanding dust
- Remove loose paint
- Scrub heavy chalk areas and overhead areas such as eaves with soap and water

SURFACE PREPARATION CONTINUED

PREVIOUSLY PAINTED SURFACES:
- Remove all mildew by washing with a solution of 16 oz (473 mL) liquid household bleach and two oz (59 mL) non-ammoniated liquid detergent per gallon (3.785 L) of water
- Rinse surfaces clean with water and allow to dry for 24 hours. Prime bare areas with primer specified under NEW SURFACES

NOTE: Blistering and peeling of exterior house paints down to bare wood is usually caused by moisture behind the paint film. Moisture pressure forces the paint away from the surface. Sources of excess moisture in the wood must be eliminated prior to repainting to obtain normal service life of these paints. Old, unsound multiple coat paint systems may be subject to peeling when repainted due to the added weight and stress created by the paint layers. In such cases, all old paint layers must be removed back to the bare wood before repainting.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear an NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

PRECAUTIONS

WARNING! CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. HARMFUL IF SWALLOWED. CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. CONTAINS CRYSTALLINE SILICA WHICH CAN CAUSE LUNG CANCER AND OTHER LUNG DAMAGE IF INHALED. POTENTIAL CANCER HAZARD. CONTAINS FORMALDEHYDE WHICH HAS BEEN SHOWN TO CAUSE UPPER RESPIRATORY TRACT CANCER AND ALLERGIC RESPIRATORY REACTION. MAY CAUSE ALLERGIC SKIN REACTION. USE ONLY WITH ADEQUATE VENTILATION! KEEP OUT OF THE REACH OF CHILDREN. For emergency information call (800) 545-2643. **Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.** If sanding, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. Ensure fresh air entry during application and drying. Avoid contact with eyes and skin. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID**: For skin contact, wash thoroughly with soap and water. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Remove contaminated clothing. For eye contact, flush immediately with plenty of water for at least 15 minutes. **Get medical attention**. If swallowed, **get medical attention immediately**. If inhalation causes discomfort, remove to fresh air. If discomfort persists or breathing difficulty occurs, get medical attention. **KEEP FROM FREEZING.** DS57-0808

SHIPPING

FREIGHT CLASSIFICATION:
Paint, Freezable

PACKAGING:
5 gallons (18.925 L)

FLASH POINT:
None

DIRECTIONS FOR USE

TINTING:
May be tinted with up to four oz/gal of DRAMATONE™ colorants. Deep Base may be tinted with up to eight oz/gal of ICI Paints Colorants.

SPREADING RATE:
On smooth surfaces and repaint work, apply at 100-115 sq. ft/gal (2.5-2.8 m^2/L) per coat to achieve 14.0-16.0 wet mils (6.0-7.0 dry mils) depending on surface texture and porosity. On filled block apply at 80 sq. ft/gal (2.0 m^2/L) per coat to achieve 20.0 wet mils (9.0 dry mils). On split face and fluted block, apply at 60 sq. ft/gal (1.3 m^2/L) per coat to achieve 27.0 wet mils (12.0 dry mils). To maintain a waterproof film and crack bridging properties, avoid overspreading and thoroughly coat entire surface.

APPLICATION:
Mix thoroughly to a uniform consistency before use. Do not thin. Product is ready for use. Recommended method is spray/backroll to achieve required crack bridging and waterproofing dry film build. If applied by roller only, frequent loading of the roller will be required to ensure the recommended film thickness is applied in one coat. Do not over-roll. This will achieve a heavy nap or stippled appearance. Stippled wet film usually indicates adequate dry film build for optimal waterproofing (see **SPREADING RATE** section for film build requirements). All application methods must be applied in such a manner to achieve a watertight, pinhole free film. If the required film build is not achieved in one coat, additional coats must then be applied until the required crack bridging and waterproofing dry film build is achieved.

Use a 1"-11/2" synthetic nap roller for roll applications. For best uniformity, cross apply to one large section at a time and then "lay off" from top to bottom. Smooth may be airless sprayed; use piston or air driven pump capable of delivering flow rate of 1 gpm or higher at 2000-2500 psi. A minimum 1/4" I.D. nylon-lined hose and a tip size of .023 or larger is recommended. Use a minimum of 30 mesh filter screens or remove filters from gun and pump. Note: Airless spray is not recommended for Fine or Coarse textured coating. For air spray, use a 10:1 air driven mastic or texture pump. For Smooth and Fine, use a 1/2" I.D. fluid hose, mastic gun, and a 1/8" round or slotted tip and air cap. For Coarse, use a 3/4" I.D. fluid hose, mastic gun, and a 1/4" round or slotted tip and air cap. Small areas may be brushed. Do not apply when air or surface temperature is below 50ºF (10ºC) or if rain, snow or heavy dew is expected within 48 hours of application.

NOTE: Accent stripes may be applied over newly applied elastomeric coatings using only FORTIS® 450 or FORTIS® 350 exterior acrylic satin or semi-gloss finish.

DRY TIME:
At 77ºF (25ºC) & 50% R.H., dries to touch in four hours and to recoat in 24 hours. Low temperature or high humidity will increase these times.

CLEAN-UP:
Clean hands and tools immediately with warm, soapy water. Clean spills right away with a damp cloth.

Concrete Coatings Bond-Prep Pigmented Bonding Primer 3030-1200

Previously ICI Paints PREP & PRIME® BOND PREP
Interior/Exterior Water-Based Pigmented Masonry Bonding Primer Sealer

DESCRIPTION

Our premium quality water-based acrylic pigmented bonding primer specifically designed to seal and condition masonry surfaces. May be used on interior and exterior concrete, stucco, precast concrete, plaster, and previously painted masonry or metal surfaces. Excellent for previously painted surfaces that are worn and chalky. May be used under alkyd, latex, acrylic, or elastomeric smooth and textured finishes. Features excellent penetration and adhesion over chalky surfaces. Highly alkali resistant and may be applied to new, dry concrete or masonry surfaces with a pH up to 13.0 and prior to a 30 day cure. Not recommended over exterior wood surfaces.

CERTIFICATIONS

AS OF 7/1/2009, COMPLIES WITH	
MPI#	3
LEED	Yes
CHPS	No
GREENGUARD	No
AIM	Yes
OTC/LADCO	Yes
CARB	Yes
SCAQMD	Yes

PERFORMANCE DATA

CHARACTERISTIC:	RESULTS:
Enamel Hold Out*	★★★★★★★☆☆☆
Adhesion to Substrate*	★★★★★★★★★☆
Dry Hide*	★★★★★★★★★☆
Sag Resistance	14-18 mils wet
Air and Substrate Application Temperature	50° F (10° C) - 90° F (32° C)
Service Temperature Limits	200° F (93° C)
Storage Temperature	40° F (4° C) - 95° F (35° C)

*Performance ratings are based on product comparisons to other products in that sheen range, performed at 77° F (25° C) 50% RH. Rating scale is from 1-10, 10 being the highest rating.

COMPOSITION

- Styrene-Acrylic Resin
- Titanium Dioxide and Extender Pigments
- Not manufactured with lead or mercury containing materials.

SPECIFICATION

Color:
White, (tintable, limit up to 2 oz/gal)

Clean-up Solvent:
Soap and water

Finish: Flat
Gloss: 1 - 5 units @ 60°

Density:
11.09 lbs/gal (1.33 kg/L)

Solids:
Volume - 34% +/- 1%
Weight - 51% +/- 1%

VOC:
100 g/L (0.84 lbs/gal) maximum
Refer to MSDS for regulatory VOC content of complete product line

Theoretical Coverage @ 1 mil dry:
546 sq ft/gal (13 m^2/L)

Practical Coverage:
Apply at 350-450 sq ft/gal (9-11 m^2/L). Actual coverage may vary depending on substrate and application method.

Recommended Film Thickness:
4.0 - 4.6 mils wet
1.4 - 1.6 mils dry

Airless Spray Application:
Pressure - 2000 psi
Tip - .015" - .019"

Dry Time 77°F (25°C) & 50% RH:
To touch - 1 hour
To recoat - 4 hours

Flame Spread Rating:
Class A (0-25) on non-combustible surfaces

Flash Point:
None

Shelf Life:
1 year minimum - unopened

SURFACE PREPARATION

GENERAL SURFACE PREPARATION:
All surfaces must be sound, dry, clean and free of oil, grease, dirt, rust, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

NEW SURFACES:

Concrete, Masonry and Plaster:

- Cure at least three days before painting, poured in place concrete must cure for at least seven days
- pH must be 13.0 or lower
- Roughen slick poured or precast concrete and remove sealers by chemical cleaning or abrasive method such as sandsweeping
- Rinse thoroughly with water and allow to dry
- Remove loose aggregate
- Prime with this product. Fill block with 3010 Concrete Coatings Block Filler, 3100 Concrete Coatings GRIPPER® Block Surfacer Interior Exterior Primer or BLOXFIL® 4000 Interior/Exterior Heavy Duty Acrylic Block Filler

PREVIOUSLY PAINTED SURFACES:

- Wash to remove contaminants
- Rinse thoroughly with water and allow to dry
- Dull glossy areas by light sanding
- Remove sanding dust
- Remove loose or peeling paint back to sound surface by high pressure water washing (minimum 2000 psi). Scrub heavy chalk areas and overhead areas such as eaves with soap and water
- Remove all mildew by washing with a solution of 16 oz (473 mL) liquid household bleach and two oz (59 mL) non-ammoniated liquid detergent per gallon (3.785 L) of water
- Rinse surfaces clean with water and allow to dry for 24 hours
- Prime with this product

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear an NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

SHIPPING

FREIGHT CLASSIFICATION:
Paint, Freezable

PACKAGING:
1 gallon (3.785 L)
5 gallons (18.925 L)
55 gallons (208-175 L)

FLASH POINT:
None

DIRECTIONS FOR USE

TINTING:
May be tinted with up to two oz/gal of DRAMATONE™ colorants.

SPREADING RATE:
Apply at 350-450 sq ft/gal (9-11 m^2/L). Actual coverage may vary depending on substrate and application method. For best hiding, tint primers towards finish coat color. Certain shades of yellow, orange, pink and red may require multiple coats.

APPLICATION:
Mix thoroughly before use. May be applied by brush, roller or airless spray. No thinning required. To work material in more effectively, brushing is the preferred method of application over chalky substrates. For spray application, use a .015"-.019" tip at 2000 psi, adjust pressure as needed. Do not apply when the surface or air temperature is below 50ºF (10ºC) or if rain, snow or heavy dew is expected within 48 hours. Provide good ventilation and warmth for normal drying.

DRYING TIME:
At 77ºF (25ºC) and 50% R.H., dries to touch in one hour and to recoat in four hours. Low temperature, high humidity, thick films or poor ventilation will increase these times.

CLEAN-UP:
Clean hands and tools immediately with warm, soapy water. Clean spills right away with a damp cloth.

PRECAUTIONS

WARNING! CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. CONTAINS CRYSTALLINE SILICA WHICH CAN CAUSE LUNG CANCER AND OTHER LUNG DAMAGE IF INHALED. POTENTIAL CANCER HAZARD. CONTAINS FORMALDEHYDE WHICH HAS BEEN SHOWN TO CAUSE UPPER RESPIRATORY TRACT CANCER AND ALLERGIC RESPIRATORY REACTION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. WHEN TINTED, CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. USE ONLY WITH ADEQUATE VENTILATION! KEEP OUT OF THE REACH OF CHILDREN. For emergency information call (800) 545-2643. **Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.** If sanding, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. Ensure fresh air entry during application and drying. Avoid contact with eyes and skin. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID**: For skin contact, wash thoroughly with soap and water. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Remove contaminated clothing. For eye contact, flush immediately with plenty of water for at least 15 minutes. **Get medical attention**. If swallowed, **get medical attention immediately**. If inhalation causes discomfort, remove to fresh air. If discomfort persists or breathing difficulty occurs, get medical attention. **KEEP FROM FREEZING.**

DS124-0806

Bloxfil® 4000

Acrylic

PRODUCT DESCRIPTION

A premium quality, heavy duty acrylic filler.

INTENDED USES

For filling interior or exterior open textured concrete block (CMU). Can be used under a variety of conventional topcoats and high performance coatings including, Devran, Tru-Glaze and Tru-Glaze-WB Epoxy Coatings and Devthane Urethane Coatings.

Performance alternate for Federal Specifications CID-A-A-1500 and TT-F-1098D.

PRACTICAL INFORMATION FOR BLOXFIL 4000

Color	White, and tintable to 2 oz/gal of AkzoNobel Dramatone colorants
Gloss Level	Matte
Volume Solids	45% ± 2%
Typical Thickness	7-14.5 mils (175-363 microns) dry equivalent to 15.6-32.3 mils (389-807 microns) wet
Theoretical Coverage	67 sq.ft/US gallon at 10.8 mils d.f.t and stated volume solids 1.70 m²/liter at 269 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Brush

Drying Time

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
77°F (25°C)	1 hour		16 hours	Extended

REGULATORY DATA

Flash Point	>214°F (101°C)	
Product Weight	13.5 lb/gal (1.62 kg/l)	
VOC	67 g/lt (0.56 lbs/gal)	Calculated

See Product Characteristics section.

Bloxfil® 4000

Acrylic

SURFACE PREPARATION

All surfaces should be clean, dry and free from contaminants including, but not limited to curing compounds, release agents, trowelling compounds, surface hardeners, efflorescence, grease, oil, dirt, old coatings and loose or disintegrating concrete. All poured and precast concrete must also be sweep blasted (preferred) or acid etched to remove laitence.

New Surfaces:

Concrete Block (CMU):
Cure mortar joints at least 30 days before filling blocks. pH must be 10.0 or lower. Do not use on cinder blocks containing slag, rust or iron.

Bloxfil 4000 is not suitable for application to aged coatings.

APPLICATION

Mixing	This material is a one component coating and should always be mixed thoroughly with a power agitator before application.	
Airless Spray	Suitable	Tip Range 33 thou (0.83 mm) Total output fluid pressure at spray tip not less than 2944 p.s.i. (207 kg/cm²) See Product Characteristics section.
Brush	Suitable	
Roller	Suitable	
Trowel	Suitable	
Thinner	DO NOT THIN	
Cleaner	Clean all equipment immediately with warm, soapy water.	
Work Stoppages	Do not allow mixed material to remain in hoses, gun or spray equipment.	
Clean Up	Clean all equipment immediately after use with warm, soapy water. All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.	

PRODUCT CHARACTERISTICS

Advantages:

- Excellent filling
- Excellent foundation for finish coats
- Low odor
- Moisture and alkali resistant
- Accepts a wide variety of topcoats including epoxy coatings
- Low VOC

This filler is not to be used as a waterproofer or used on walls where severe moisture or hydrostatic pressure may exist, such as in car washes, commercial kitchens, indoor swimming pool areas or below grade basement walls. See Tru-Glaze-WB 4015 epoxy block filler for these applications.

Where airless spray application is used, a full coat should be applied, followed by back rolling immediately with a long nap roller.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

The following topcoats are recommended for Bloxfil 4000:

Devflex 4206QD	Devflex 4208QD
Devflex 4212HP	Devflex 4216HP
Devflex 659	Devran 224HS
Devthane 349QC	Devthane 359
Devthane 359H	Devthane 378
Devthane 378H	Devthane 379
Devthane 379H	Tru-Glaze 4508H
Tru-Glaze-WB 4406	Tru-Glaze-WB 4408
Tru-Glaze-WB 4426	Tru-Glaze-WB 4428

For additional topcoat recommendations please consult your sales representative.

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Vol	Pack
	5 US gal	5 US gal	5 US gal
	For availability of other pack sizes contact International Protective Coatings		
SHIPPING WEIGHT	Unit Size		
	5 US gal	63.9 lb	
STORAGE	Shelf Life	12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.	

Disclaimer

www.international-pc.com

Devflex® 4020PF

Water-borne Acrylic

PRODUCT DESCRIPTION

An advanced technology, premium quality, flat waterborne acrylic coating for use as a protective maintenance rust inhibitive direct-to metal (DTM) primer and finish. Bonds to clean glossy, hard surfaces such as aged oil base or alkyd enamels without sanding.

INTENDED USES

Ideal for the exterior of tanks, metal buildings, structural steel, piping, handrails and masonry construction. Can be applied directly to interior or exterior steel, weathered or properly cleaned galvanized steel and masonry in institutional, residential, and light industrial areas.

PRACTICAL INFORMATION FOR DEVFLEX 4020PF

Color	White, Red
Gloss Level	Flat
Volume Solids	44% ± 2%
Typical Thickness	2.2-3.5 mils (55-87.50 microns) dry equivalent to 5-8 mils (125-200 microns) wet
Theoretical Coverage	248 sq.ft/US gallon at 2.8 mils d.f.t and stated volume solids 6.20 m²/liter at 71.25 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush

Drying Time

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
77°F (25°C)	*[1]	2 hours	2 hours	Extended

[1] * not applicable

REGULATORY DATA

Flash Point	>214°F (101°C)	
Product Weight	11.8 lb/gal (1.42 kg/l)	
VOC	91 g/lt (0.76 lbs/gal)	Calculated

See Product Characteristics section.

SURFACE PREPARATION

All surfaces should be clean, dry and free from contaminants including, but not limited to curing compounds, release agents, trowelling compounds, surface hardeners, efflorescence, grease, oil, dirt, old coatings and loose or disintegrating concrete. All poured and precast concrete must also be sweep blasted (preferred) or acid etched to remove laitence.

Steel
Best results are obtained over a surface sandblasted to a Commercial Blast (SSPC-SP6 or ISO-Sa2). Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning. Prime with this product. If rust staining occurs, apply a second coat of this product.

Galvanized Metal and Aluminum
Degrease to SSPC-SP1 and remove any white zinc corrosion products by hand abrasion cleaning. Self prime with Devflex 4020PF.

Concrete, Plaster and Masonry
Must cure at least 30 days before painting. pH must be 10.0 or lower. Roughen slick poured or pre-cast concrete and remove sealers by chemical cleaning or abrasive method such as grit sweeping. Rinse thoroughly with water and allow to dry. Remove loose aggregate. Prime with Devflex 4020PF. Fill block with latex block filler Bloxfil 4000 or Glidden Professional 3010 filler.

Interior Wood and Drywall
Prime with Devflex 4020PF.

Previously Painted Surfaces:

Wash to remove contaminants. Rinse thoroughly with water and allow to dry. Sanding is not required if the surface is properly and thoroughly cleaned (scuff sanding is required only on glossy, hard, slick or dense surfaces which are subject to high levels of moisture). Remove loose paint. Scrub heavy chalk exterior areas and overhead areas such as eaves with soap and water. All existing mildew must be removed by washing with a solution of 16 oz. (473 ml) liquid household bleach and two oz. (59 ml) non-ammoniated liquid detergent per gallon (3.785 L) of water. Rinse surfaces clean with water and allow to dry for 24 hours. Prime bare areas with primer specified under New Surfaces. May be used self primed over previously painted interior surfaces.

APPLICATION

Mixing	This material is a one component coating and should always be mixed thoroughly with a power agitator before application.	
Airless Spray	Recommended	Use a 15 thou (0.38mm) tip size and adjust pressure as needed.
Brush	Suitable	
Roller	Suitable	
Thinner	Do not thin	
Cleaner	Clean all equipment immediately with warm, soapy water.	
Work Stoppages	Do not allow material to remain in hoses, guns or spray equipment. Thoroughly flush all equipment with clean water.	
Clean Up	Thoroughly flush all equipment with clean water . All unused material should be stored in tightly closed containers. Partially filled containers may show surface skinning after storage.	

PRODUCT CHARACTERISTICS

Multiple surface uses:

- Direct-to-metal or masonry primer
- Interior and exterior steel, masonry or interior wood
- Ideal for shop applications
- Low VOC
- Low odor and water clean-up
- Fast dry and recoat
- Resists flash rust
- Corrosion resistant
- Easy application by brush, roll or spray
- Performance alternate for Federal Specifications MIL-P-28577B and TT-P-1975.

Spray application is preferred for application to bare steel to ensure adequate film build and protection.

Do not apply when air or surface temperature is below 50°F (10°C).

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

The following topcoats are recommended:-

Devflex 4020PF
Devflex 4206QD
Devflex 4208QD
Devflex 4212HP
Devflex 4216HP
Devflex 659

For other suitable topcoats, consult International Protective Coatings.

ADDITIONAL INFORMATION

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- Definitions & Abbreviations
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- Paint Application
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SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Vol	Pack
	1 US gal	1 US gal	1 US gal
	5 US gal	5 US gal	5 US gal
	For availability of other pack sizes contact International Protective Coatings		
SHIPPING WEIGHT	Unit Size		
	1 US gal	12.5 lb	
	5 US gal	61.9 lb	
STORAGE	Shelf Life	24 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.	

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Devguard® 4160

Alkyd

PRODUCT DESCRIPTION

A high solids, rust-inhibitive, interior-exterior alkyd primer for use on ferrous and non-ferrous metal including galvanized metal and aluminum.

INTENDED USES

Ideal for structural steel, tank exteriors, piping and equipment. Excellent for use as a barrier coat when applied over sound aged oil or alkyd finishes which are to be topcoated with heavy-duty coatings. This product has exceptional resistance to exterior weathering, making it suitable for use as a shop primer.

May be topcoated on ferrous metal with epoxy and urethane coatings as well as conventional alkyd and latex products.

PRACTICAL INFORMATION FOR DEVGUARD 4160

Color	White, Gray, Red
Gloss Level	Matte
Volume Solids	51% ± 2%
Typical Thickness	2-2.5 mils (50-63 microns) dry equivalent to 3.9-5 mils (98-124 microns) wet
Theoretical Coverage	359 sq.ft/US gallon at 2.3 mils d.f.t and stated volume solids 8.90 m²/liter at 57 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush

Drying Time

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
77°F (25°C)	20 minutes	60 minutes	2 hours[2]	Extended[1]

[1] See International Protective Coatings Definitions & Abbreviations
[2] When overcoating with epoxy or urethane finish coats, allow 48-72 hours drying time at 77ºF (25ºC).

REGULATORY DATA

Flash Point	108°F (42°C)
Product Weight	11.8 lb/gal (1.42 kg/l)
VOC	3.49 lb/gal (419 g/lt) EPA Method 24

See Product Characteristics section.

SURFACE PREPARATION

All surfaces to be coated should be clean, dry and free from contamination. Prior to application, all surfaces should be assessed and treated in accordance with ISO 8504:2000.

New Surfaces:

Steel
Best results are obtained over a surface abrasive blasted to commercial blast cleanliness (SSPC-SP6) or ISO 8501-1:2007 Sa2. Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning.

Galvanized Steel

Degrease to SSPC-SP1 and remove any white zinc corrosion products by hand abrasion cleaning. Self prime with Devguard 4160.

Previously Painted Surfaces:

Wash to remove contaminants. Rinse thoroughly with water and allow to dry. Sanding is not required if the surface is properly and thoroughly cleaned (scuff sanding is required only on glossy, hard, slick or dense surfaces which are subject to high levels of moisture). Remove loose paint. Scrub heavy chalk exterior areas and overhead areas such as eaves with soap and water. All existing mildew must be removed by washing with a solution of 16 oz. (473 ml) liquid household bleach and two oz. (59 ml) non-ammoniated liquid detergent per gallon (3.785 L) of water. Rinse surfaces clean with water and allow to dry for 24 hours. Prime bare areas with Devguard 4160.

For optimum performance in more corrosive areas, entire surface should be abrasive blast cleaned and primed with Devguard 4160.

APPLICATION

Mixing	This material is a one component coating and should always be mixed thoroughly with a power agitator before application.	
Airless Spray	Recommended	Use a 17 thou (0.43mm) tip size and adjust pressure as needed.
Brush	Recommended	Multiple coats may be required to achieve specified film thickness.
Roller	Recommended	Multiple coats may be required to achieve specified film thickness.
Thinner	Do not thin	
Cleaner	T-5 Thinner	
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with T-5 Thinner. Partially filled containers may show surface skinning and/or a viscosity increase of the material after storage.	
Clean Up	Clean all equipment immediately after use with T-5 Thinner. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.	

PRODUCT CHARACTERISTICS

Advantages:
- May be used on both ferrous and galvanized metal
- Excellent corrosion resistance
- Fast drying
- May be topcoated with heavy-duty coatings
- Lead and chromate free
- High solids
- Performance alternate for Federal Specifications TT-P-615D, TT-P-636D, and TT-P-645B

Devguard 4160 is not suitable for immersion.

May be tinted with up to 2 oz./gal of industrial colorants.

Over-application will result in solvent retention and prolonged periods will be required before the film achieves maximum hardness.

Do not apply if temperature is less than 50°F (10°C), relative humidity exceeds 85% or temperature is within 5°F (3°C) of dew point.

Devguard 4160 is not recommended on metal where pooling water is likely, such as roofs, etc. Avoid strong solvent topcoats such as epoxies and urethanes when used over galvanized metal.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

The following topcoats are recommended for Devguard 4160:

Bar-Rust 231	Devflex 4206QD
Devflex 4208QD	Devflex 4212HP
Devflex 4216HP	Devflex 659
Devguard 4303	Devguard 4306
Devguard 4308	Devguard 4309
Devguard 4348	Devran 224HS
Devthane 359	Devthane 359H
Devthane 378	Devthane 379
Devthane 389	Tru-Glaze 4508H
Tru-Glaze-WB 4406	Tru-Glaze-WB 4408
Tru-Glaze-WB 4426	Tru-Glaze-WB 4428
Unigrip 4380	Unigrip 4382

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Vol	Pack
	1 US gal	1 US gal	1 US gal
	5 US gal	5 US gal	5 US gal
	For availability of other pack sizes contact International Protective Coatings		
SHIPPING WEIGHT	Unit Size		
	1 US gal	12.1 lb	
	5 US gal	59.1 lb	
STORAGE	Shelf Life	12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.	

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Devflex® 4216HP

Water-borne Acrylic

PRODUCT DESCRIPTION

A premium quality, low VOC, direct to metal acrylic semi-gloss enamel for high traffic interior-exterior areas of commercial, institutional, residential and industrial structures. Features a non-yellowing film with excellent durability.

INTENDED USES

May be applied directly to interior or exterior steel and aluminum and to properly primed galvanized metal, wood or masonry surfaces.

PRACTICAL INFORMATION FOR DEVFLEX 4216HP

Color	White, safety colors and custom colors
Gloss Level	Semi-gloss
Volume Solids	36% ± 2%
Typical Thickness	1.5-4 mils (38-100 microns) dry equivalent to 4.2-11.1 mils (106-278 microns) wet
Theoretical Coverage	209 sq.ft/US gallon at 2.8 mils d.f.t and stated volume solids 5.20 m²/liter at 69 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush, Conventional Spray

Drying Time

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
50°F (10°C)	*[1]	36 hours	36 hours	Extended
59°F (15°C)	*[1]	30 hours	30 hours	Extended
77°F (25°C)	*[1]	24 hours	4 hours	Extended

[1] * not applicable

REGULATORY DATA

Flash Point	>214°F (101°C)	
Product Weight	10.3 lb/gal (1.24 kg/l)	
VOC	91 g/lt (0.76 lbs/gal)	Calculated

See Product Characteristics section.

SURFACE PREPARATION

All surfaces should be clean, dry and free from contaminants including, but not limited to curing compounds, release agents, trowelling compounds, surface hardeners, efflorescence, grease, oil, dirt, old coatings and loose or disintegrating concrete. All poured and precast concrete must also be sweep blasted (preferred) or acid etched to remove laitence.

New Surfaces:

Steel and Aluminum
Best results are obtained over a surface abrasive blasted to commercial blast cleanliness (SSPC-SP6) or ISO 8501-1:2007 Sa2. Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning. Prime with Devflex 4216HP or Devflex 4020PF primer. For maximum corrosion protection, prime with Devguard 4160 or Devguard 4360 primers, depending on local VOC regulations. When using colors tinted with more than 2 oz /gal. of suitable colorants, a primer is recommended. When using as a DTM finish without a primer, a minimum of two coats is recommended for best corrosion resistance.

Galvanized Metal:
Ensure that surfaces are clean, dry and free of contamination or white zinc salts. This may require scrubbing with fresh water. Prime with Devran 205 or Devran 203 epoxy primers, Devflex 4020PF acrylic primer or Devguard 4160 or Devguard 4360 alkyd primers depending on local VOC regulations.

Interior Wood:
Set nails and fill holes with latex spackle. Sand smooth. Dust clean. Self-prime or prime with Glidden Professional Wall & Woodwork 1020 primer sealer. Do not use this product with lacquer undercoats.

Exterior Wood:
Spot prime pine knots with Glidden Professional 6001 primer. Prime entire surface with Glidden Professional 6001 primer.

Drywall:
Prime with Glidden Professional Hi-Hide Wall 1000 primer sealer

Concrete, Plaster and Masonry:
Cure for at least 30 days before painting. pH must be 10.0 or lower. Roughen slick poured or pre-cast concrete and remove sealers by chemical cleaning or abrasive blasting. Rinse thoroughly with water and allow to dry. Remove loose aggregate. Prime interior concrete or plaster with this product or with Glidden Professional 3030 primer sealer. Prime exterior masonry with Glidden Professional 6001 primer. Fill concrete block with Bloxfil 4000 or Glidden Professional 3010 fillers.

APPLICATION

Mixing	This material is a one component coating and should always be mixed thoroughly with a power agitator before application.
Airless Spray	Recommended
Brush	Suitable
Roller	Suitable
Thinner	Do not thin
Cleaner	Clean immediately after use with warm, soapy water.
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with clean water. Partially filled containers may show surface skinning and/or a viscosity increase of the material after storage.
Clean Up	Clean all equipment immediately after use with warm soapy water. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

PRODUCT CHARACTERISTICS

Advantages:

- Alkyd-like hardness and durability
- Excellent color retention
- High opacity
- Non-yellowing
- All purpose finish for multiple surfaces
- Excellent resistance to grease, oil and water
- Excellent flow and leveling
- Resists peeling and chipping
- Low odor and water clean-up
- Washable and scrubbable
- Good abrasion resistance
- Easy application by brush, roll or spray
- Low VOC, < 100 g/l

Not recommended for large areas of exterior wood such as wood siding.

Meets OTC (Industrial Maintenance) Regulations
Meets SCAQMD (Industrial Maintenance) Regulations
Meets CARB (Industrial Maintenance) Regulations
LEED (New Construction, New Schools / CHPS) CompliantMPI Category 153 (Gloss Level 5)
Suitable for use in USDA-inspected facilities.

Tinting: Tint with AkzoNobel Dramatone colorants.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

Devflex 4216HP is normally applied directly to blast cleaned steel; however, it can be applied over the following primers when required:

Cathacoat 302H	Devflex 4020PF
Devguard 4160	Devguard 4180
Devguard 4360	Devran 201H
Devran 203	Devran 223
Devshield 4130	Tru-Glaze-WB 4015
Tru-Glaze-WB 4030	

For other suitable primers consult International Protective Coatings.

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
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- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size		
		Vol	Pack
	1 US gal	1 US gal	1 US gal
	5 US gal	5 US gal	5 US gal
	For availability of other pack sizes contact International Protective Coatings		
SHIPPING WEIGHT	Unit Size		
	1 US gal	11 lb	
	5 US gal	54 lb	
STORAGE	Shelf Life	12 months minimum at 77°F (25°C).Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.	

Disclaimer

www.international-pc.com

Material Safety Data Sheets

International MATERIAL SAFETY DATA SHEET

prepared 07/27/10

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, abdominal pain, chest pain, coughing, apathy, central nervous system depression, anesthetic effect or narcosis, difficulty of breathing, allergic response, blood abnormalities, severe lung irritation or damage, liver damage, kidney damage, loss of consciousness, respiratory failure, death. Possible sensitization to respiratory tract.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting, allergic response, severe skin irritation, severe skin irritation or burns. Possible sensitization to skin.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, blurred vision, tearing of eyes, redness of eyes, severe eye irritation, severe eye irritation or burns, corneal injury.

Ingestion : Ingestion may cause lung inflammation and damage due to aspiration of material into lungs, mouth and throat irritation, mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, visual disturbances, apathy, central nervous system depression, respiratory problems, intoxication, anesthetic effect or narcosis, blood abnormalities, burns of the mouth, throat, stomach, liver damage, kidney damage, loss of consciousness, respiratory failure, death.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, lung disorders, asthma-like conditions, nervous system disorders, allergies.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use. Dispose of contaminated leather items, such as shoes and belts. If irritation occurs, consult a physician.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may explode when exposed to extreme heat or fire. Vapors may ignite explosively at ambient temperatures. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Closed containers may burst if exposed to extreme heat or fire. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, oxides of nitrogen, acrid fumes, oxides of sulfur, ammonia, aldehydes, toxic gases, acids. Phenolics, halogenated compounds, cyanides.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Ventilate area with explosion-proof equipment. Use non-sparking tools. Evacuate all unnecessary personnel. Place collected material in proper container. Complete personal protective equipment must be used during cleanup. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 80f. Keep away from heat, sparks and open flame.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : The supplier of parachlorobenzotrifluoride (pcbtf) has established an occupational exposure limit for pcbtf of 25 ppm as an 8-hour twa. When airborne concentrations of pcbtf are unknown or exceed established guidelines, respiratory protection is required. Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing-surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment. Use non-sparking equipment.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, face shield, apron.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Anhydrides, oxidizers, acids, reducing agents, bases, aldehydes, ketones, amines, metal salts, combustible materials, mineral acids. Nitrates, acid chlorides.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, storage near acids, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur may polymerize in presence of aliphatic amines.

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that is moderately toxic by ingestion. Contains a chemical that may be absorbed through skin. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. A 28-day inhalation study was conducted with pcbtf at dose levels of 100, 250, 500, and 1000 ppm in rats for 6 hr/day, 5 days/week. Clinical signs included increased activity at 250 ppm and above. Hepatocyte hypertrophy was observed in all animals at dose levels of 500 and 1000 ppm and some animals at lower levels. Kidney/body weight ratios were significantly increased in male and female rats. Male kidney changes were attributed to alpha-2u-globulin and therefore not relevant to humans. Gavage studies of pcbtf in laboratory rodents for treatment periods of 14, 28, and 90 days have demonstrated significant liver and kidney toxicity at dose levels of 400-1000 mg/kg/ day. Evidence of target organ toxicity included significant increases in relative liver and kidney weights, clinical chemistry values and histopathological findings. Renal toxicity which occurred only in male rats, was attributed to hyaline droplet nephropathy and is highly unlikely to develop in humans. The noael's for all these studies range from 10 to 100 mg/kg/day. A 90 day rat inhalation toxicity and neurobehavioral study was conducted using exposures of 0-250 ppm for 6 hrs/day, 5 days/week. No pcbtf-related macroscopic observations. Pcbtf- related centrilobular hypertrophy was present in the livers of males and females at the highest dose after 13 weeks. No centrilobular hypertrophy was observed at any level among recovery animals. There were no pcbtf-related effects on the nervous system as measured by a functional observation battery, muscular activity measurements and neuropathology. A noel of 50 ppm was established in this study for liver hepatocyte hypertrophy in male and female rats. If the hepatocyte hypertrophy observed is considered to be an adaptive response to pcbtf, the noael for this study is 250 ppm. Prolonged inhalation of mica may cause pneumoconiosis. Symptoms may include a progressive dry cough, shortness of breath on exertion, decreased chest expansion, weakness and weight loss. Other effects of overexposure may include toxicity to liver, kidney, lungs, central nervous system, blood.

Carcinogenicity : Inhalation of non-asbestiform cosmetic grade talc for 2 years at 6 and 18 mg/m3 produced clear evidence of carcinogenicity in female rats (lung and adrenal tumors) and some evidence of carcinogenicity in male rats (adrenal tumors). No evidence of carcinogenicity was demonstrated in male and female mice exposed under the same conditions. Microscopic examination of the lungs of rats and mice exposed to talc revealed additional exposure related effects primarily associated with the inflammatory response. Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. The international agency for research on cancer (IARC) has classified carbon black as possibly carcinogenic to humans (group 2b) based on sufficient evidence in animals and inadequate evidence in humans. The international agency for research on cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (group 2b) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. In a 2 year inhalation study conducted by the national toxicology program (NTP), ethylbenzene vapor at 750 ppm produced kidney and testicular tumors in rats and lung and liver tumors in mice. Genetic toxicity studies showed no genotoxic effects. The relevance of these results to humans is not known.

Reproductive effects : High exposures to xylene in some animal studies, often at maternally toxic levels, have affected embryo/fetal development. The significance of this finding to humans is not known.

Mutagenicity : Triethylenetetramine has demonstrated weak mutagenic activity in standard in vitro tests, and has caused embryo- fetal toxicity and fetal malformations when fed to rats. Triethylenetetramine did not exhibit carcinogenic potential in life-time mouse skin painting studies. Contains parachlorobenzotrifluoride (pcbtf). The ames test was negative with and without s9 metabolic activation. Pcbtf induced sister-chromatid-exchanges (sces) in mouse lymphoma cells with and without s9 metabolic activation at doses from 2.5 To 40 micrograms per milliliter. In the mouse lymphoma assay which did not incorporate metabolic activation, a dose-response effect was observed.

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
222F9988	devtar 5a hs epoxy high build coating black base	12.74	59.78	32.47	70 f	277-282	*340	UN1263,paint, 3, PGII
222G0908	devtar 5a hs epoxy high build coating converter	7.77	253.57	44.35	68 f	208-428	*340	UN1263,paint related material, 3, PGII

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	222F9988	222G0908
benzene, ethyl-	ethylbenzene	100-41-4	.1-1.0	
2-pentanone, 4-methyl-	methyl isobutyl ketone	108-10-1		10-20
1,2,-ethanediamine, n,n'-bis(2-aminoethyl)-	triethylenetetramine	112-24-3		1-5
mica	mica	12001-26-2	10-20	
benzene, dimethyl-	xylene	1330-20-7	.1-1.0	
carbon black	carbon black	1333-86-4	1-5	

Ingredients (Continued)

Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	222F9988	222G0908
calcium metasilicate	wollastonite	13983-17-0	5-10	
talc	talc	14807-96-6	10-20	
quartz	quartz	14808-60-7	.1-1.0	
phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl) oxirane	epoxy resin	25068-38-6	1-5	
oxirane,2,2'-((1-methylethylidene)bis(4,1- phenyleneoxymethylene))bis, homopolymer	epoxy resin	25085-99-8	10-20	
acetic acid, 1,1-dimethylethyl ester	tert-butyl acetate	540-88-5		10-20
distillates (petroleum), steam-cracked, polymers with light steam-cracked petroleum naphtha	aromatic hydrocarbon resin	68410-16-2	10-20	
fatty acids, c18-unsatd., dimers, reaction products with polyethylenepolyamines	polyamide resin	68410-23-1		40-50
1-butanol	n-butanol	71-36-3	1-5	
phenol, 4,4'-(1-methylethylidene)bis-	bisphenol a	80-05-7		10-20
benzene, 1-chloro-4-(trifluoromethyl)	parachlorobenzotrifluoride	98-56-6	20-30	

Chemical Hazard Data

(ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
ethylbenzene	100-41-4	100 ppm	125 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	y	n
methyl isobutyl ketone	108-10-1	20 ppm	75 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
triethylenetetramine	112-24-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
mica	12001-26-2	3 mg/m3	not est.	not est.	not est.	3 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
xylene	1330-20-7	100 ppm	150 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
carbon black	1333-86-4	3.5 mg/m3	not est.	not est.	not est.	3.5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	y	n
wollastonite	13983-17-0	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
talc	14807-96-6	2 mg/m3	not est.	not est.	not est.	.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
quartz	14808-60-7	.025 mg/m3	not est.	not est.	not est.	0.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
epoxy resin	25068-38-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
epoxy resin	25085-99-8	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
tert-butyl acetate	540-88-5	200 ppm	not est.	not est.	not est.	200 ppm	not est.	not est.	not est.	not est.	n	n	y	n	n	n	n	n
aromatic hydrocarbon resin	68410-16-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
polyamide resin	68410-23-1	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
n-butanol	71-36-3	20 ppm	not est.	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	n	n	n	n	n
bisphenol a	80-05-7	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
parachlorobenzotrifluoride	98-56-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

DEVOE HIGH PERFORMANCE COATINGS

AkzoNobel

International MATERIAL SAFETY DATA SHEET

prepared 07/29/10

Akzo Nobel Paints 15885 Sprague Road Strongsville, Ohio 44136 EMERGENCY TELEPHONE NO. (800) 545-2643

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to loss of appetite, mucous membrane irritation, fatigue, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, blurred vision, coughing, difficulty with speech, central nervous system depression, respiratory problems, intoxication, tightness of chest, anesthetic effect or narcosis, difficulty of breathing, blood abnormalities, tremors, severe lung irritation or damage, liver damage, kidney damage, convulsions, loss of consciousness, respiratory failure, asphyxiation, death.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting, blistering. Skin contact may result in dermal absorption of component(s) of this product which may cause dizziness and/or lightheadedness, headache, nausea, vomiting, central nervous system depression.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, blurred vision, tearing of eyes, redness of eyes, severe eye irritation.

Ingestion : Ingestion may cause lung inflammation and damage due to aspiration of material into lungs, mouth and throat irritation, mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, central nervous system depression, difficulty of breathing, blood abnormalities, liver damage, kidney damage, pulmonary edema, convulsions, loss of consciousness.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, lung disorders, asthma-like conditions, kidney disorders, liver disorders, nervous system disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort. Get medical attention if discomfort or irritation persists.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use. If irritation occurs, consult a physician.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may explode when exposed to extreme heat or fire. Vapors may ignite explosively at ambient temperatures. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Vapors can form explosive mixtures in air at elevated temperatures. Closed containers may burst if exposed to extreme heat or fire. Solvent must not be allowed to evaporate because contact of water with aluminum dust generates hydrogen, which is a flammable gas. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, oxides of nitrogen, aluminum oxide, toxic gases. Halogenated compounds, smoke.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Ventilate area with explosion-proof equipment. Spills may be collected with absorbent materials. Use non-sparking tools. Evacuate all unnecessary personnel. Place collected material in proper container. Complete personal protective equipment must be used during cleanup. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 80f. Keep away from heat, sparks and open flame.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : The supplier of parachlorobenzotrifluoride (pcbtf) has established an occupational exposure limit for pcbtf of 25 ppm as an 8-hour twa. When airborne concentrations of pcbtf are unknown or exceed established guidelines, respiratory protection is required. Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing-surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment. Use non-sparking equipment.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, face shield, apron, boots.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, bases, amines, alkalis, nitric acid, metal salts, hydrofluoric acid, halogenated compounds, combustible materials. Nitrates.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that is moderately toxic by ingestion. Contains a chemical that may be absorbed through skin. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. A 28-day inhalation study was conducted with pcbtf at dose levels of 100, 250, 500, and 1000 ppm in rats for 6 hr/day, 5 days/week. Clinical signs included increased activity at 250 ppm and above. Hepatocyte hypertrophy was observed in all animals at dose levels of 500 and 1000 ppm and some animals at lower levels. Kidney/body weight ratios were significantly increased in male and female rats. Male kidney changes were attributed to alpha-2u-globulin and therefore not relevant to humans. Gavage studies of pcbtf in laboratory rodents for treatment periods of 14, 28, and 90 days have demonstrated significant liver and kidney toxicity at dose levels of 400-1000 mg/kg/ day. Evidence of target organ toxicity included significant increases in relative liver and kidney weights, clinical chemistry values and histopathological findings. Renal toxicity which occurred only in male rats, was attributed to hyaline droplet nephropathy and is highly unlikely to develop in humans. The noael's for all these studies range from 10 to 100 mg/kg/day. A 90 day rat inhalation toxicity and neurobehavioral study was conducted using exposures of 0-250 ppm for 6 hrs/day, 5 days/week. No pcbtf-related macroscopic observations. Pcbtf- related centrilobular hypertrophy was present in the livers of males and females at the highest dose after 13 weeks. No centrilobular hypertrophy was observed at any level among recovery animals. There were no pcbtf-related effects on the nervous system as measured by a functional observation battery, muscular activity measurements and neuropathology. A noel of 50 ppm was established in this study for liver hepatocyte hypertrophy in male and female rats. If the hepatocyte hypertrophy observed is considered to be an adaptive response to pcbtf, the noael for this study is 250 ppm. Other effects of overexposure may include toxicity to liver, kidney, central nervous system, blood.

Carcinogenicity : Stoddard solvent iic has been shown to cause kidney tumors in male rats in a national toxicology program (NTP) study. These tumors were associated with a specific protein, alpha- 2u-microglobulin. Because humans do not produce this protein stoddard solvent iic has not been classified as a human carcinogen. Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. The international agency for research on cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (group 2b) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. In a 2 year inhalation study conducted by the national toxicology program (NTP), ethylbenzene vapor at 750 ppm produced kidney and testicular tumors in rats and lung and liver tumors in mice. Genetic toxicity studies showed no genotoxic effects. The relevance of these results to humans is not known.

Reproductive effects : High exposures to xylene in some animal studies, often at maternally toxic levels, have affected embryo/fetal development. The significance of this finding to humans is not known. Exposures to 1-methoxy-2-propanol in some animal studies, at maternally toxic levels, affected reproduction and embryo/fetal development. The significance of this finding to humans is not known.

Mutagenicity : Contains parachlorobenzotrifluoride (pcbtf). The ames test was negative with and without s9 metabolic activation. Pcbtf induced sister-chromatid-exchanges (sces) in mouse lymphoma cells with and without s9 metabolic activation at doses from 2.5 To 40 micrograms per milliliter. In the mouse lymphoma assay which did not incorporate metabolic activation, a dose-response effect was observed.

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
710S9100	ht-10 modified silicone high heat coating - aluminum	10.45	419.98	67.61	81 f	208-290	*340	UN1263, paint, 3, PGIII
710S9903	ht-10 modified silicone high heat coating - black	10.70	411.75	66.46	40 f	248-290	*340	UN1263,paint, 3, PGII

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	710S9100	710S9903
benzene, ethyl-	ethylbenzene	100-41-4	1-5	1-5
2-propanol, 1-methoxy-	1-methoxy-2-propanol	107-98-2		1-5
acetic acid, butyl ester	butyl acetate	123-86-4	1-5	1-5
benzene, dimethyl-	xylene	1330-20-7	5-10	5-10
quartz	quartz	14808-60-7	10-20	10-20
acetic acid, 1,1-dimethylethyl ester	tert-butyl acetate	540-88-5	5-10	
solvent naphtha (petroleum), medium aliphatic	medium aliphatic solvent naphtha	64742-88-7	5-10	5-10
aluminum	aluminum	7429-90-5	10-20	
graphite	graphite	7782-42-5		5-10
stoddard solvent	mineral spirits	8052-41-3	5-10	
benzene, 1-chloro-4-(trifluoromethyl)	parachlorobenzotrifluoride	98-56-6	20-30	30-40

Ingredients (Continued)

Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	71059100	71059903
synthetic zeolite molecular sieves	sodium aluminosilicate	Sup. Conf.	1-5	
polyamide resin	polyamide resin	Sup. Conf.		1-5
silicone resin	silicone resin	Sup. Conf.	10-20	10-20

Chemical Hazard Data

(ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
ethylbenzene	100-41-4	100 ppm	125 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	y	n
1-methoxy-2-propanol	107-98-2	100 ppm	150 ppm	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
butyl acetate	123-86-4	150 ppm	200 ppm	not est.	not est.	150 ppm	not est.	not est.	not est.	not est.	n	n	y	n	n	n	n	n
xylene	1330-20-7	100 ppm	150 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
quartz	14808-60-7	.025 mg/m3	not est.	not est.	not est.	0.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
tert-butyl acetate	540-88-5	200 ppm	not est.	not est.	not est.	200 ppm	not est.	not est.	not est.	not est.	n	n	y	n	n	n	n	n
medium aliphatic solvent naphtha	64742-88-7	100 ppm	not est.	not est.	not est.	500 x ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
aluminum	7429-90-5	1 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
graphite	7782-42-5	2.0 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
mineral spirits	8052-41-3	100 ppm	not est.	not est.	not est.	500 ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
parachlorobenzotrifluoride	98-56-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
sodium aluminosilicate	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
polyamide resin	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

MATERIAL SAFETY DATA SHEET

prepared 07/27/10

Akzo Nobel Paints 15885 Sprague Road Strongsville, Ohio 44136 EMERGENCY TELEPHONE NO. (800) 545-2643

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, fatigue, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, chest pain, blurred vision, sore throat, coughing, choking, difficulty with speech, apathy, central nervous system depression, intoxication, tightness of chest, metallic taste, anesthetic effect or narcosis, difficulty of breathing, allergic response, fever and chills, dehydration, tremors, abnormal blood pressure, liver damage, kidney damage, pulmonary edema, convulsions, pneumoconiosis, loss of consciousness, cyanosis, respiratory failure, asphyxiation, death. Possible sensitization to respiratory tract.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting, blistering, allergic response, severe skin irritation, severe skin irritation or burns. Possible sensitization to skin. Skin contact may result in dermal absorption of component(s) of this product which may cause dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, central nervous system depression, anesthetic effect or narcosis, convulsions, loss of consciousness.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, blurred vision, tearing of eyes, redness of eyes, severe eye irritation, severe eye irritation or burns, corneal injury.

Ingestion : Ingestion may cause lung inflammation and damage due to aspiration of material into lungs, mouth and throat irritation, mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, visual disturbances, apathy, central nervous system depression, intoxication, anesthetic effect or narcosis, difficulty of breathing, burns of the mouth, throat, stomach, liver damage, kidney damage, pulmonary edema, convulsions, loss of consciousness, respiratory failure, death.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, lung disorders, asthma-like conditions, kidney disorders, liver disorders, nervous system disorders, allergies.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use. Dispose of contaminated leather items, such as shoes and belts. If irritation occurs, consult a physician.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may explode when exposed to extreme heat or fire. Vapors may ignite explosively at ambient temperatures. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Vapors can form explosive mixtures in air at elevated temperatures. Closed containers may burst if exposed to extreme heat or fire. Dust explosion hazard. Solvent must not be allowed to evaporate because contact of water with aluminum dust generates hydrogen, which is a flammable gas. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus. Self-contained breathing apparatus recommended.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, oxides of nitrogen, acrid fumes, oxides of sulfur, aldehydes, aluminum oxide, toxic gases, barium compounds, smoke and soot. Phenolics, cyanides, smoke.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Spills may be collected with absorbent materials. Use non-sparking tools. Evacuate all unnecessary personnel. Place collected material in proper container. Complete personal protective equipment must be used during cleanup. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Store in original containers. Isolated storage is desirable. Keep away from heat, sparks and open flame.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, face shield, apron.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, bases, aldehydes, isocyanates, amines, aluminum, nitric acid, halogenated compounds, combustible materials, lewis acids, mineral acids. Nitrates.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, storage near acids, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur may polymerize in presence of aliphatic amines.

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that is moderately toxic by ingestion. Contains a chemical that may be absorbed through skin. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Other effects of overexposure may include toxicity to liver, kidney, lungs, central nervous system, blood.

Carcinogenicity : Inhalation of non-asbestiform cosmetic grade talc for 2 years at 6 and 18 mg/m3 produced clear evidence of carcinogenicity in female rats (lung and adrenal tumors) and some evidence of carcinogenicity in male rats (adrenal tumors). No evidence of carcinogenicity was demonstrated in male and female mice exposed under the same conditions. Microscopic examination of the lungs of rats and mice exposed to talc revealed additional exposure related effects primarily associated with the inflammatory response. In long term (2 year) inhalation studies, the national toxicology program (NTP) found clear evidence of carcinogenic activity in mice and male rats and some evidence of carcinogenic activity in female rats exposed to cumene. Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. The international agency for research on cancer (IARC) has classified carbon black as possibly carcinogenic to humans (group 2b) based on sufficient evidence in animals and inadequate evidence in humans. The international agency for research on cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (group 2b) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. In a 2 year inhalation study conducted by the national toxicology program (NTP), ethylbenzene vapor at 750 ppm produced kidney and testicular tumors in rats and lung and liver tumors in mice. Genetic toxicity studies showed no genotoxic effects. The relevance of these results to humans is not known. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : High exposures to xylene in some animal studies, often at maternally toxic levels, have affected embryo/fetal development. The significance of this finding to humans is not known.

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product contains 10% or greater of a chemical classified by DOT as a marine pollutant (see Chemical Hazard Data table). This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
224F2534N	devran 224hs high build epoxy coating med gray bas	12.76	243.51	29.20	100 f	237-355	*220	UN1263, paint, combustible liquid, PGIII
224F2950N	devran 224hs high build gray	13.05	249.62	29.92	100 f	237-355	*220	UN1263, paint, combustible liquid, PGIII
224F3501N	devran 224hs high build epoxy coating white base p	13.03	91.34	31.16	100 f	208-208	*320	UN1263, paint, combustible liquid, PGIII
224F3520N	devran 224hs high build epoxy coating pt-1 white b	13.05	249.74	29.91	100 f	237-355	*220	UN1263, paint, combustible liquid, PGIII
224F9100N	devran 224hs high build epoxy coating, aluminum ba	13.20	236.44	27.46	100 f	237-355	*220	UN1263, paint, combustible liquid, PGIII
224F9400N	devran 224hs epoxy high build safety yellow base	12.20	278.00	32.30	100 f	237-355	*320	UN1263, paint, combustible liquid, PGIII
224F9501N	devran 224hs high build epoxy coating deep tint ba	11.75	266.13	31.92	100 f	237-415	*320	UN1263, paint, combustible liquid, PGIII
224F9502N	devran 224hs high build epoxy coating neutral base	10.86	272.43	32.69	100 f	237-415	*320	UN1263, paint, combustible liquid, PGIII
224F9903N	devran 224hs high build epoxy black base portion	12.82	243.15	29.17	100 f	237-355	*220	UN1263, paint, combustible liquid, PGIII
224G0908	devran 224hs high build epoxy coating, neutral con	11.76	126.16	27.64	100 f	208-349	*320	UN2924, flammable liquid, corrosive, n.o.s.,(resin solution, alkyphenols), 3(8), PGIII

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	224F2534N	224F2950N	224F3501N	224F3520N	224F9100N	224F9400N	224F9501N	224F9502N	224F9903N	224G0908
benzene, ethyl-	ethylbenzene	100-41-4	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0
benzenemethanol	benzyl alcohol	100-51-6					1-5	1-5				
2-pentanone, 4-methyl-	methyl isobutyl ketone	108-10-1	1-5	1-5		1-5	1-5	1-5	5-10	5-10	1-5	
1,3,5-trimethylbenzene	1,3,5-trimethylbenzene	108-67-8	.1-1.0	.1-1.0		.1-1.0	.1-1.0	.1-1.0	.1-1.0	1-5	.1-1.0	
1,2,-ethanediamine, n,n'-bis(2-aminoethyl)-	triethylenetetramine	112-24-3										1-5
antigorite	antigorite	12135-86-3	5-10	1-5		1-5	5-10				5-10	
iron oxide magnetite	iron oxide magnetite	12227-89-3									5-10	
benzene, dimethyl-	xylene	1330-20-7	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	1-5	1-5	.1-1.0	1-5

Ingredients (Continued)

Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	224F2534N	224F2950N	224F3501N	224F3520N	224F9100N	224F9400N	224F9501N	224F9502N	224F9903N	224G0908
carbon black	carbon black	1333-86-4	.1-1.0								1-5	
titanium oxide	titanium dioxide	13463-67-7	5-10	20-30	20-30	20-30		1-5	10-20			
calcium metasilicate	wollastonite	13983-17-0			1-5			1-5	1-5	1-5		1-5
tremolite, nonasbestiform	tremolite	14567-73-8	5-10	5-10		5-10	5-10				5-10	
talc	talc	14807-96-6	5-10	1-5	5-10	1-5	5-10	10-20	5-10	10-20	5-10	5-10
quartz	quartz	14808-60-7	10-20	10-20	10-20	10-20		.1-1.0	10-20	10-20	10-20	5-10
oxirane,2,2'-(((1-methylethylidene) bis (4,1-phenyleneoxymethylene))) bis-	diglycidyl ether of bisphenol a	1675-54-3				10-20						
anthophyllite, nonasbestiform	anthophyllite	17068-78-9	1-5	.1-1.0		.1-1.0	1-5				1-5	
aluminum hydroxide	aluminum hydroxide	21645-51-2		1-5		1-5						
phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-((1-methylethylidene)bis (4,1-phenyleneoxymethylene))bis(oxirane)	epoxy resin	25036-25-3				10-20						
oxirane,2,2'-((1-methylethylidene)bis(4,1-phenyleneoxymethylene))bis, homopolymer	epoxy resin	25085-99-8	30-40	30-40	30-40		30-40	30-40	30-40	40-50	30-40	
acetic acid, 1,1-dimethylethyl ester	tert-butyl acetate	540-88-5			10-20							5-10
butanamide, 2-((2-methoxy-4-nitrophenyl)azo) -n-(2-methoxyphenyl)-3-oxo-	pigment yellow 74	6358-31-2						5-10				
solvent naphtha (petroleum), light aromatic	light aromatic solvent naphtha	64742-95-6	1-5	1-5		1-5		1-5	1-5	1-5	1-5	1-5
fatty acids, c18-unsatd., dimers, reaction products with polyethylenepolyamines	polyamide resin	68410-23-1										20-30
1-butanol	n-butanol	71-36-3	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	
aluminum	aluminum	7429-90-5					5-10					
sulfuric acid, barium salt	barium sulfate	7727-43-7					20-30	10-20				20-30
stoddard solvent	mineral spirits	8052-41-3					1-5					
phenol, 4-nonyl-, branched	4-nonylphenol, branched	84852-15-3										10-20
benzene,1,2,4-trimethyl-	pseudocumene	95-63-6	1-5	1-5		1-5	.1-1.0	1-5	1-5	1-5	1-5	1-5
benzene, (1-methylethyl)-	cumene	98-82-8	.1-1.0	.1-1.0		.1-1.0		.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0
castor oil derivative	rheological additive	Sup. Conf.							1-5	1-5		

Chemical Hazard Data

(ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
ethylbenzene	100-41-4	100 ppm	125 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	y	n
benzyl alcohol	100-51-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
methyl isobutyl ketone	108-10-1	20 ppm	75 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
1,3,5-trimethylbenzene	108-67-8	25 ppm	35 ppm	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
triethylenetetramine	112-24-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
antigorite	12135-86-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
iron oxide magnetite	12227-89-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
xylene	1330-20-7	100 ppm	150 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
carbon black	1333-86-4	3.5 mg/m3	not est.	not est.	not est.	3.5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	y	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
wollastonite	13983-17-0	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
tremolite	14567-73-8	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
talc	14807-96-6	2 mg/m3	not est.	not est.	not est.	.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
quartz	14808-60-7	.025 mg/m3	not est.	not est.	not est.	0.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
diglycidyl ether of bisphenol a	1675-54-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
anthophyllite	17068-78-9	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
aluminum hydroxide	21645-51-2	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
epoxy resin	25036-25-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
epoxy resin	25085-99-8	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

Chemical Hazard Data (Continued) (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC	H	M	N	I	O
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.								
tert-butyl acetate	540-88-5	200 ppm	not est.	not est.	not est.	200 ppm	not est.	not est.	not est.	not est.	n	n	y	n	n	n	n	n
pigment yellow 74	6358-31-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
light aromatic solvent naphtha	64742-95-6	not est.	not est.	not est.	not est.	500x ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
polyamide resin	68410-23-1	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
n-butanol	71-36-3	20 ppm	not est.	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	n	n	n	n	n
aluminum	7429-90-5	1 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
barium sulfate	7727-43-7	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
mineral spirits	8052-41-3	100 ppm	not est.	not est.	not est.	500 ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
4-nonylphenol, branched	84852-15-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	p	n	n	n
pseudocumene	95-63-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
cumene	98-82-8	50 ppm	not est.	not est.	not est.	50 ppm	not est.	not est.	y	not est.	n	y	y	y	n	n	n	n
rheological additive	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
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Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

DEVOE HIGH PERFORMANCE COATINGS

AkzoNobel

MATERIAL SAFETY DATA SHEET

prepared 07/28/10

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to. Inhalation of spray mist may cause irritation of respiratory tract. Mucous membrane irritation, fatigue, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, coughing, central nervous system depression, intoxication, anesthetic effect or narcosis, difficulty of breathing, allergic response, tremors, liver damage, kidney damage, pulmonary edema, pneumoconiosis, loss of consciousness, death. Possible sensitization to respiratory tract.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting, allergic response, severe skin irritation. Possible sensitization to skin. Skin contact may result in dermal absorption of component(s) of this product which may cause drowsiness, dizziness and/or lightheadedness.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, tearing of eyes, redness of eyes, severe eye irritation, corneal injury.

Ingestion : Ingestion may cause lung inflammation and damage due to aspiration of material into lungs, mouth and throat irritation, mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, central nervous system depression, anesthetic effect or narcosis, difficulty of breathing, liver damage, kidney damage, pulmonary edema, convulsions, loss of consciousness.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, asthma-like conditions, kidney disorders, liver disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort. Get medical attention if discomfort or irritation persists.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use. If irritation occurs, consult a physician.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may explode when exposed to extreme heat or fire. Vapors may ignite explosively at ambient temperatures. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Vapors can form explosive mixtures in air at elevated temperatures. Closed containers may burst if exposed to extreme heat or fire. Dust explosion hazard. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, oxides of nitrogen, acrid fumes, oxides of sulfur, ammonia, toxic gases, nitrogen, barium compounds, monoazo compounds, aromatic amines, 3,3' dichlorobenzidine, acrylic monomers. Acid halides.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. May burn although not readily ignitable. Ventilate area with explosion-proof equipment. Spills may be collected with absorbent materials. Use non-sparking tools. Evacuate all unnecessary personnel. Place collected material in proper container. Spilled material is extremely slippery. Complete personal protective equipment must be used during cleanup. Vacuum with grounded equipment. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 80f. Store below 100f (38c). Keep away from heat, sparks and open flame. Store in original container. Keep away from direct sunlight, heat and all sources of ignition. Keep container tightly closed in a well-ventilated area.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Where respiratory protection is required, use only NIOSH/ MSHA approved respirators in accordance with OSHA standard 29 CFR 1910.134. Respiratory protection is required for use in isocyanate containing environments. Consider type of application and environmental concentrations when selecting respiratory protection. Observe governmental regulations for respirator use. (29 CFR 1910.134(OSHA))(Canadian z94.4) The use of positive pressure supplied air respirator is mandatory when the airborne isocyanate concentrations are not known. Note: isocyanate based materials have been determined to cause allergic sensitization in humans. Avoid inhalation and dermal (skin) contact with the uncured material.

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment. Use non-sparking equipment.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, face shield, apron.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable can form explosive peroxides on long standing in air. See section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, bases, halogens, amines, water, alcohols, organic materials, combustible materials, caustics. Nitrates.

Conditions to avoid : Elevated temperatures, moisture, contact with oxidizing agent, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that may be absorbed through skin. Free diisocyanate may cause allergic reaction in susceptible persons. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Contains iron oxide, repeated or prolonged exposure to iron oxide dust may cause siderosis, a benign pneumoconiosis. Other effects of overexposure may include toxicity to liver, kidney, lungs, central nervous system.

Carcinogenicity : Decomposition of diarylide pigments at temperatures above 392f (200c)can produce trace amounts of monazo dyes, which can then decompose to produce aromatic amines. As the temperature increases into the 464-572f (240-300c), trace quantities of 3,3'-dichlorobenzidine (3,3'-dcb) can be detected. The national toxicology program (NTP) has classified 3,3'-dcb as a known human carcinogen. The international agency for research on cancer (IARC) has classified 3,3'-dcb as a possible human carcinogen (group 2b: sufficient animal data, inadequate human data). The international agency for research on cancer (IARC) has classified carbon black as possibly carcinogenic to humans (group 2b) based on sufficient evidence in animals and inadequate evidence in humans. The international agency for research on cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (group 2b) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. In a 2 year inhalation study conducted by the national toxicology program (NTP), ethylbenzene vapor at 750 ppm produced kidney and testicular tumors in rats and lung and liver tumors in mice. Genetic toxicity studies showed no genotoxic effects. The relevance of these results to humans is not known. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : High exposures to xylene in some animal studies, often at maternally toxic levels, have affected embryo/fetal development. The significance of this finding to humans is not known.

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
379B1000	devthane 379 aliphatic urethane gloss enamel -white high-hiding base	10.53	363.22	42.50	80 f	212-595	*330	UN1263, paint, 3, PGIII
379B3501	devthane 379 aliphatic urethane gloss enamel -white base	10.59	374.61	42.89	80 f	212-595	230	UN1263, paint, 3, PGIII
379B8557	devthane 379 aliphatic urethane gloss enamel -signal yellow base	8.70	402.06	46.22	80 f	212-450	230	UN1263, paint, 3, PGIII
379B9000	devthane 379 safety red	8.98	366.58	42.51	80 f	212-595	330	UN1263, paint, 3, PGIII
379B9200	devthane 379 aliphatic urethane gloss enamel safety orange base	8.88	353.05	41.25	80 f	212-595	*330	UN1263, paint, 3, PGIII
379B9400	devthane 379 aliphatic urethane gloss enamel safety yellow base	10.09	354.06	41.26	80 f	212-595	*330	UN1263, paint, 3, PGIII
379B9410	devthane 379 aliphatic urethane gloss enamel skyway bridge yellow	10.20	366.69	43.06	80 f	212-595	330	UN1263, paint, 3, PGIII
379B9500	devthane 379 aliphatic urethane gloss enamel - white tint base	10.64	364.82	42.74	80 f	212-595	330	UN1263, paint, 3, PGIII
379B9501	devthane 379 aliphatic urethane gloss enamel -deep tint base	10.48	366.71	42.94	80 f	212-595	330	UN1263, paint, 3, PGIII
379B9502	devthane 379 aliphatic urethane gloss enamel -neutral tint base	10.67	350.28	40.74	80 f	212-595	330	UN1263, paint, 3, PGIII
379B9903	devthane 379 aliphatic urethane gloss enamel -black base	10.06	376.17	43.87	80 f	212-595	*330	UN1263, paint, 3, PGIII
379C0910	devthane 379 hs converter	9.40	112.85	13.00	135 f	293-293	*321	UN1866, resin solution, combustible liquid, PGIII

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	379B1000	379B3501	379B8557	379B9000	379B9200	379B9400	379B9410	379B9500	379B9501	379B9502	379B9903	379C0910
benzene, ethyl-	ethylbenzene	100-41-4			.1-1.0	.1-1.0	.1-1.0	.1-1.0						
2-propanol, 1-methoxy-, acetate	propylene glycol monomethyl ether	108-65-6						1-5						
octadecanamide, n,n'-1,2-ethanediylbis-	n,n'-ethylenedistearamide	110-30-5								1-5	1-5			
2-heptanone	methyl amyl ketone	110-43-0	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	
quaternary ammonium compounds, benzyl(hydrogenated tallow alkyl)dimethyl, stearates, salts with bentonite	rheological additive	121888-68-4											1-5	
ethane, 1,1',1"-methylidenetris(oxy)-tris-	ethyl orthoformate	122-51-0	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	

Ingredients (Continued) — Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	379B1000	379B3501	379B8557	379B9000	379B9200	379B9400	379B9410	379B9500	379B9501	379B9502	379B9903	379C0910
acetic acid, butyl ester	butyl acetate	123-86-4	5-10	10-20	10-20	10-20	10-20	5-10	5-10	5-10	5-10	5-10	5-10	5-10
benzene, dimethyl-	xylene	1330-20-7	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0
carbon black	carbon black	1333-86-4											1-5	
titanium oxide	titanium dioxide	13463-67-7	20-30	20-30	5-10		1-5	1-5	1-5	10-20	5-10			
aluminum hydroxide	aluminum hydroxide	21645-51-2	1-5											
2-propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene, 2-ethylhexyl 2-propeno and methyl 2-methyl-2-propenoate	acrylic polymer	26916-05-2	10-20			10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	
2-naphthalenecarboxamide, 4-((4(aminocarbonyl) phenyl)azo)-n-(2-ethoxyphenyl)-3-hydroxy-	monazo red pigment	2786-76-7				5-10								
hexane, 1,6-diisocyanato-, homopolymer	aliphatic polyisocyanate	28182-81-2												90-95
benzoic acid, 2-((1-((2,3-dihydro-2-oxo-1h- benzimidazol-5-yl)amino))carbonyl))-2-oxo))	monoazo yellow	31837-42-0							5-10					
hindered amine	light stabilizer	41556-26-7				1-5	1-5							
c.i. pigment yellow 42	yellow iron oxide	51274-00-1				1-5								
butanamide, 2,2'-((3,3'-dichloro(1,1'-biphenyl)- 4,4'-diyl)bis(azo))bis(n-(4-chloro-2,5- dimethoxyphenyl)-3-oxo-	diazo yellow	5567-15-7							1-5					
butanamide, 2-((2-methoxy-4-nitrophenyl)azo) -n-(2-methoxyphenyl)-3-oxo-	pigment yellow 74	6358-31-2			1-5		5-10	5-10						
solvent naphtha (petroleum), light aromatic	light aromatic solvent naphtha	64742-95-6												1-5
butanamide, 2-((4-methoxy-2-nitrophenyl)azo))- n-(2-methoxyphenyl)-3-oxo-	yellow pigment	6528-34-3			1-5									
silica	amorphous silica	7631-86-9		1-5										
sulfuric acid, barium salt	barium sulfate	7727-43-7				5-10	1-5	10-20	10-20	10-20	20-30	30-40	20-30	
castor oil	castor oil, raw	8001-79-4	1-5	1-5		1-5	5-10	1-5	1-5	1-5	1-5	5-10	1-5	
stoddard solvent	mineral spirits	8052-41-3				1-5	1-5	1-5						
hexane, 1,6-diisocyanato-	hexamethylene diisocyanate	822-06-0												.1-1.0
acetic acid, c6-8-branched alkyl esters	oxo-heptyl acetate	90438-79-2	1-5			1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	
benzene,1,2,4-trimethyl-	pseudocumene	95-63-6	.1-1.0	.1-1.0		.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0		1-5
polyol reactive diluent	polyol reactive diluent	Sup. Conf.			5-10									
substituted pyrrol	substituted pyrrol	Sup. Conf.					1-5							
acrylic resin	acrylic resin	Sup. Conf.	10-20	30-40	40-50	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	
orange pigment	orange pigment	Sup. Conf.					1-5							
block copolymer with pigment affined groups	paint additive	Sup. Conf.				1-5								

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC	Carcinogenicity Listed By:				
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
ethylbenzene	100-41-4	100 ppm	125 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	y	n
propylene glycol monomethyl ether	108-65-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
n,n'-ethylenedistearamide	110-30-5	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
methyl amyl ketone	110-43-0	50 ppm	not est.	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
rheological additive	121888-68-4	10 mg/m3	not est.	not est.	not est.	15 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
ethyl orthoformate	122-51-0	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
butyl acetate	123-86-4	150 ppm	200 ppm	not est.	not est.	150 ppm	not est.	not est.	not est.	not est.	n	n	y	n	n	n	n	n
xylene	1330-20-7	100 ppm	150 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

Chemical Hazard Data (Continued) (ANSI Sections 2, 8, 11, and 15)

Common Name	CAS. No.	ACGIH-TLV 8-hour TWA	ACGIH-TLV STEL	ACGIH-TLV C	ACGIH-TLV S	OSHA-PEL 8-hour TWA	OSHA-PEL STEL	OSHA-PEL C	OSHA-PEL S	S.R. Std.	S2	S3	CC	H	M	N	I	C
carbon black	1333-86-4	3.5 mg/m3	not est.	not est.	not est.	3.5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	y	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
aluminum hydroxide	21645-51-2	1 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
acrylic polymer	26916-05-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
monazo red pigment	2786-76-7	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
aliphatic polyisocyanate	28182-81-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
monoazo yellow	71837-42-1	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
light stabilizer	41556-26-7	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
yellow iron oxide	51274-00-1	5 mg/m3	not est.	not est.	not est.	15 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
diazo yellow	5567-15-7	10 mg/m3	not est.	not est.	not est.	15 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
pigment yellow 74	6358-31-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
light aromatic solvent naphtha	64742-95-6	not est.	not est.	not est.	not est.	500x ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
yellow pigment	8528-34-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
amorphous silica	7631-86-9	10 mg/m3	not est.	not est.	not est.	6 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	y	n
barium sulfate	7727-43-7	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
castor oil, raw	8001-79-4	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
mineral spirits	8052-41-3	100 ppm	not est.	not est.	not est.	500 p, m	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
hexamethylene diisocyanate	822-06-0	0.005 ppm	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
n-xo-heptyl acetate	84438-79-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
pseudocumene	95-63-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
polyol reactive diluent	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
substituted pyrrol	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
orange pigment	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
paint additive	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:
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P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

DEVOE HIGH PERFORMANCE COATINGS

AkzoNobel

ITW DEVCON **FUTURA COATINGS**

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**FUTURA-BOND 415A**
MSDS Manufacturer Number:	00415A73-P1
Manufacturer Name:	ITW Devcon Futura
Address:	30 Endicott Street Danvers, MA 01923
General Phone Number:	(978) 777-1100
Emergency Phone Number:	(800) 424-9300
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec:	In Canada, call CANUTEC: (613) 996-6666 (call collect)
MSDS Revision Date:	10/10/2006

HMIS

Health Hazard	2*
Fire Hazard	3
REACTIVITY	0
Personal Protection	X

* Chronic Health Effects:

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Isopropanol	67-63-0	5 - 10 by Weight
Crystalline silica	14808-60-7	10 - 30 by Weight
Yellow Iron Oxide	51274-00-1	10 - 30 by Weight
Alkyl Glycidyl Ether	68609-97-2	10 - 30 by Weight
Bisphenol A diglycidyl ether resin	25068-38-6	10 - 30 by Weight

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:	WARNING! Flammable. Potential Sensitizer Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury.
Skin:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Chronic Health Effects:	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system. Central nervous system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
Other First Aid:	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 - FIRE FIGHTING MEASURES

Flammable Properties:	Flammable. NFPA Flammable liquid. Class I B
Flash Point:	53°F (11.6°C)
Flash Point Method:	Cleveland Open Cup.
Auto Ignition Temperature:	>500°F
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water or foam may cause frothing.
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Sealed containers at elevated temperatures may rupture explosively and spread fire due to polymerization. Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Cleanup Measures:	Absorb spill with inert material (e,g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Collect spill with a non-sparking tool. Place into a suitable container for disposal. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Flammable, eliminate ignition sources. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to distant ignition sources and flash back. Ventilate area. Use proper personal protective equipment as listed in section 8.
Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Other Precautions:	Pump or shovel to storage/salvage vessels.

SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist. Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures. Do not reuse containers without proper cleaning or reconditioning.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, direct sunlight, and incompatible substances. Keep container tightly closed when not in use.

Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product. Hazardous liquid or vapor residue may remain in emptied container. Do not reuse, heat, burn, pressurize, cut, weld, braze, solder, drill, grind, expose to sparks, flame, or ignition sources of empty containers without proper commercial cleaning or reconditioning.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Isopropanol :	
Guideline ACGIH:	ACGIH TLV-STEL 400 ppm
Guideline OSHA:	OSHA PEL-TWA 400 ppm
Crystalline silica :	
Guideline ACGIH:	ACGIH TLV-TWA 0.025 mg/m3
Guideline OSHA:	OSHA PEL-TWA [10 mg/m3]/[{% SiO2} + 2]
Notes :	Only established PEL and TLV values for the ingredients are listed below.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	Yellow
Odor:	Alcohol like
Boiling Point:	180-300°F (82.2-148.8°C) @ 5 mmHg
Melting Point:	Not determined.
Specific Gravity:	1.41
Solubility:	Not soluable
Vapor Density:	>1 (air = 1)
Vapor Pressure:	Not determined.
Percent Volatile:	16.5
Evaporation Rate:	<1 (butyl acetate = 1)
pH:	Not determined.
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	53°F (11.6°C)
Flash Point Method:	Cleveland Open Cup.
Auto Ignition Temperature:	>500°F
VOC Content:	128 g/L
Percent Solids by Weight	

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Heating resin above 300 F in the presence of air may cause slow oxidative decomposition.
Incompatible Materials:	Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

SECTION 11 - TOXICOLOGICAL INFORMATION

Isopropanol :

Eye:	Eye - Rabbit Standard Draize Test : 100 mg/24H - [Moderate](RTECS)
Skin:	Skin - Rabbit Standard Draize Test : 500 mg - [mild](RTECS) Skin - Rabbit LD50: 12800 mg/kg - [Details of toxic effects not reported other than lethal dose value](RTECS)
Inhalation:	Inhalation - Rat LC50: 72600 mg/m3 - [Behavioral - general anesthetic Lungs, Thorax, or Respiration - other changes] (RTECS) Inhalation - Mouse LC50: 53000 mg/m3 - [Behavioral - general anesthetic Lungs, Thorax, or Respiration - other changes] (RTECS)
Ingestion:	Oral - Rat LD50: 5000 mg/kg - [oral - general anesthetic] (RTECS) Oral - Mouse LD50: 3600 mg/kg - [oral - altered sleep time (including change in righting reflex) oral - somnolence (general depressed activity)] (RTECS) Oral - Mouse LD50: 3600 mg/kg - [oral - general anesthetic] (RTECS)

Crystalline silica :

Inhalation:	Inhalation - Rat TCLo - Lowest published toxic concentration: 1 mg/kg - [Lungs, Thorax, or Respiration - other changes Biochemical - Metabolism (Intermediary) - effect on inflammation or mediation of inflammation] (RTECS)
Ingestion:	Oral - Rat TDLo - Lowest published toxic dose: 120 gm/kg - [Gastrointestinal - hypermotility, diarrhea Gastrointestinal - other changes] (RTECS)
Carcinogenicity:	IARC: Group 1: Carcinogenic to humans NTP: Reasonably anticipated to be a human carcinogen

Alkyl Glycidyl Ether :

Skin:	Skin - Rabbit Standard Draize Test: 500 uL/24H - [Moderate](RTECS)
Ingestion:	Oral - Rat LD50: 17100 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS)

Bisphenol A diglycidyl ether resin :

Skin:	Skin - Rat LD: >2 gm/kg - [Nutritional and Gross Metabolic - other changes] (RTECS)
Ingestion:	Oral - Rat LD: >5 gm/kg - [Nutritional and Gross Metabolic - other changes] (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number:	D001
Important Disposal Information:	DANGER! Rags, steel wool and waste soaked with this product may spontaneously catch fire if improperly discarded or stored. To avoid a spontaneous combustion fire, immediately after use, place rags, steel wool or waste in a sealed, water-filled, metal con

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	Coating solution
DOT UN Number:	1139
DOT Hazard Class:	3
DOT Packing Group:	II

SECTION 15 - REGULATORY INFORMATION

Isopropanol :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
EC Number:	603-003-00-0

Crystalline silica :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the Pennsylvania State Hazardous Substances List.

Yellow Iron Oxide :

TSCA Inventory Status:	Listed

Alkyl Glycidyl Ether :

TSCA Inventory Status:	Listed

Bisphenol A diglycidyl ether resin :

TSCA Inventory Status:	Listed
EC Number:	603-074-00-8
Canadian Regulations.	WHMIS Hazard Class(es): B2; D2B; D2A All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms

SECTION 16 - ADDITIONAL INFORMATION

HMIS Fire Hazard:	3
HMIS Health Hazard:	2*
HMIS Reactivity:	0
HMIS Personal Protection:	X
MSDS Revision Date:	10/10/2006
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

ITW DEVCON **FUTURA COATINGS**

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**FUTURABOND 415B00**
MSDS Manufacturer Number:	00415B00-P2
Manufacturer Name:	ITW Devcon Futura
Address:	30 Endicott Street Danvers, MA 01923
General Phone Number:	(978) 777-1100
Emergency Phone Number:	(800) 424-9300
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec:	In Canada, call CANUTEC: (613) 996-6666 (call collect)
MSDS Revision Date:	10/10/2006

HMIS

Health Hazard	3*
Fire Hazard	1
REACTIVITY	0
Personal Protection	X

* Chronic Health Effects:

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Crystalline silica	14808-60-7	5 - 10 by Weight
Non-hazardous ingredients.	N/A	30 - 60 by Weight
Trade secret.	N/A	30 - 60 by Weight
Acetic acid	64-19-7	1 - 5 by Weight
Methanol	67-56-1	1 - 5 by Weight
Formaldehyde	50-00-0	1 - 5 by Weight

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:	WARNING! Harmful. Potential Sensitizer Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury.
Skin:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Chronic Health Effects:	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system. Central nervous system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point:	>200°F (93.3°C)
Flash Point Method:	Not determined.
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water or foam may cause frothing.
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Sealed containers at elevated temperatures may rupture explosively and spread fire due to polymerization. Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Cleanup Measures:	Absorb spill with inert material (e,g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Other Precautions:	Pump or shovel to storage/salvage vessels.

SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Crystalline silica :	
Guideline ACGIH:	ACGIH TLV-TWA 0.025 mg/m3
Guideline OSHA:	OSHA PEL-TWA [10 mg/m3]/[{% SiO2} + 2]
Acetic acid :	
Guideline ACGIH:	ACGIH TLV-TWA 10 ppm
Guideline OSHA:	OSHA PEL-TWA 10 ppm
Methanol :	
Guideline ACGIH:	ACGIH TLV-TWA 200 ppm
Guideline OSHA:	OSHA PEL-TWA 200 ppm
Formaldehyde :	
Guideline ACGIH:	ACGIH TLV-STEL 0.3 ppm Ceiling
Guideline OSHA:	OSHA PEL-TWA 0.75 ppm
Notes :	Only established PEL and TLV values for the ingredients are listed below.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	Cloudy.
Odor:	Ammonia like.
Boiling Point:	149-249°F (65-120.5°C)
Melting Point:	Not determined.
Specific Gravity:	1.08
Solubility:	soluble
Vapor Density:	>1 (air = 1)
Vapor Pressure:	0.03 mmHg @171°F
Percent Volatile:	0
Evaporation Rate:	<<1 (butyl acetate = 1)
pH:	Neutral.
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	>200°F (93.3°C)
Flash Point Method:	Not determined.
Auto Ignition Temperature:	Not determined.
VOC Content:	89 g/L
Percent Solids by Weight	57.6

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.

Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Heating resin above 300 F in the presence of air may cause slow oxidative decomposition.
Incompatible Materials:	Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

SECTION 11 - TOXICOLOGICAL INFORMATION

Crystalline silica :

Inhalation:	Inhalation - Rat TCLo - Lowest published toxic concentration: 1 mg/kg - [Lungs, Thorax, or Respiration - other changes Biochemical - Metabolism (Intermediary) - effect on inflammation or mediation of inflammation] (RTECS)
Ingestion:	Oral - Rat TDLo - Lowest published toxic dose: 120 gm/kg - [Gastrointestinal - hypermotility, diarrhea Gastrointestinal - other changes] (RTECS)
Carcinogenicity:	IARC: Group 1: Carcinogenic to humans NTP: Reasonably anticipated to be a human carcinogen

Acetic acid :

Eye:	Eye - Rabbit Rinsed with water : 5 mg/30S - [mild](RTECS)
Skin:	Skin - Rabbit Standard Draize Test : 50 mg/24H - [mild](RTECS) Skin - Rabbit LD50: 1060 uL/kg - [Details of toxic effects not reported other than lethal dose value](RTECS) Skin - Rat TDLo - Lowest published toxic dose: 0.25 mg/kg - [Gastrointestinal - ulceration or bleeding from duodenum](RTECS) Skin - Rabbit TDLo - Lowest published toxic dose: 0.04 gm/kg/24H - [Skin and Appendages - primary irritation (after topical exposure)](RTECS) Skin - Mammal species unspecified LD50: 1060 mg/kg - [Details of toxic effects not reported other than lethal dose value](RTECS)
Inhalation:	Inhalation - Mouse LC50: 5620 ppm/1H - [Sense Organs and Special Senses (Eye) - conjunctive irritation Sense Organs and Special Senses (Eye) - effect, not otherwise specified Blood - other changes] (RTECS)
Ingestion:	Oral - Rat LD50: 3310 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS)

Methanol :

Eye:	Eye - Rabbit Standard Draize Test : 100 mg/24H - [Moderate](RTECS)
Skin:	Skin - Rabbit Standard Draize Test : 20 mg/24H - [Moderate](RTECS) Skin - Primate monkey LDLo: 393 mg/kg - [Details of toxic effects not reported other than lethal dose value](RTECS) Skin - Rabbit LD50: 15800 mg/kg - [Details of toxic effects not reported other than lethal dose value](RTECS)
Inhalation:	Inhalation - Rat LC50: 64000 ppm/4H - [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50: 5600 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS) Oral - Mouse LD50: 7300 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS)

Formaldehyde :

Eye:	Eye - Rabbit Standard Draize Test : 37% - [severe](RTECS)
Skin:	Skin - Human Standard Draize Test : 150 ug/3D-I - [mild](RTECS) Skin - Rabbit LD50: 270 uL/kg - [Details of toxic effects not reported other than lethal dose value](RTECS) Skin - Rabbit LD50: 270 mg/kg - [Details of toxic effects not reported other than lethal dose value](RTECS)
Inhalation:	Inhalation - Rat LC50: 250 ppm/2H - [Behavioral - tetany Behavioral - coma Lungs, Thorax, or Respiration - acute pulmonary edema] (RTECS) Inhalation - Mouse LC50: 454 mg/m3/4H - [Details of toxic effects not reported other than lethal dose value] (RTECS) Inhalation - Mouse LC50: 505 mg/m3/2H - [Behavioral - tetany Behavioral - coma Lungs, Thorax, or Respiration - acute pulmonary edema] (RTECS)
Ingestion:	Oral - Rat LD50: 500 mg/kg - [oral - tremor Liver - other changes Kidney/Ureter/Bladder - other changes] (RTECS) Oral - Mouse LD50: 42 mg/kg - [oral - somnolence (general depressed activity) oral - convulsions or effect on seizure threshold oral - excitement] (RTECS) Oral - Mouse LD50: 385 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS) Oral - Mouse LD50: 500 mg/kg - [oral - tremor Liver - other changes Kidney/Ureter/Bladder - other changes] (RTECS)
Carcinogenicity:	IARC: Group 1: Carcinogenic to humans NTP: Reasonably anticipated to be a human carcinogen OSHA: Designated carcinogen

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number:	None

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	Non regulated.
DOT UN Number:	Not applicable.
DOT Hazard Class:	Not applicable.
DOT Packing Group:	Not applicable.
IATA Shipping Name:	Non regulated.

SECTION 15 - REGULATORY INFORMATION

Crystalline silica :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the Pennsylvania State Hazardous Substances List.

Acetic acid :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the Pennsylvania State Hazardous Substances List.
EC Number:	607-002-00-6

Methanol :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
EC Number:	603-001-00-X

Formaldehyde :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
EC Number:	605-001-00-5
Canadian Regulations.	WHMIS Hazard Class(es): D2B All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms

SECTION 16 - ADDITIONAL INFORMATION

HMIS Fire Hazard:	1
HMIS Health Hazard:	3*

HMIS Reactivity:	0
HMIS Personal Protection:	X
MSDS Revision Date:	10/10/2006
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

ITW DEVCON **FUTURA COATINGS**

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**GEOTHANE 520A**
MSDS Manufacturer Number:	00520A00-P2
Manufacturer Name:	ITW Devcon Futura
Address:	30 Endicott Street Danvers, MA 01923
General Phone Number:	(978) 777-1100
Emergency Phone Number:	(800) 424-9300
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec:	In Canada, call CANUTEC: (613) 996-6666 (call collect)
MSDS Revision Date:	10/10/2006

HMIS

Health Hazard	3*
Fire Hazard	1
REACTIVITY	1
Personal Protection	X

* Chronic Health Effects:

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Toluene diisocyanate (TDI) based polymer	68987-47-3	60 - 100 by Weight
Toluene-1,3-Diisocyanate	26471-62-5	10 - 30 by Weight
Butyrolactone	96-48-0	10 - 30 by Weight

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:	WARNING! Toxic. Suspect Carcinogen. Potential Sensitizer Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury.
Skin:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Chronic Health Effects:	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product. Isocyanate exposure levels must be monitored. Medical supervision of all employees who handle or come in contact with isocyanates is recommended (i.e. FEV, FVC). This should include pre-employment and periodic medical examinations. Persons with asthmatic-type conditions, chronic bronchitis, other chronic

respiratory diseases, recurrent skin eczema or sensitization should be excluded from working with this product. Once sensitized no further exposure can be permitted.

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
Note to Physicians:	Asthmatic type symptoms may develop, which may be immediate or delayed for several hours.

SECTION 5 - FIRE FIGHTING MEASURES

Flammable Properties:	Combustible. Class III B
Flash Point:	209°F (98.3°C)
Flash Point Method:	Cleveland Open Cup.
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO_2) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water may cause frothing.
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Do not reseal containers if contaminated with water, resin will react with water to release carbon dioxide. As a result of the water contamination, pressure will build up in the sealed container causing it to rupture.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Cleanup Measures:	Absorb spill with inert material (e,g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. Neutralize residue with appropriate neutralizer. Do not attempt to neutralize large quantities of material unless measures to control reactivity and heat generation have been taken. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8. A blanket of protein foam may be placed over spill for temporary control of isocyanate vapor.
Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Other Precautions:	Pump large quantities into closed but not sealed metal containers. Isocyanates will react with water and generate carbon dioxide, this could result in the rupture of any closed containers. Neutralize using 10 parts neutralizer to 1 part isocyanate solution. Mix and allow to stand for 48 hrs in containers, letting evolved carbon dioxide to vent. Neutralizer consist of 90% water, 3-8% concentrated ammonia (or sodium carbonate), 2% detergent.

SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use. Do not reseal container If moisture or water contamination is suspected. Water contaminated material in a sealed container may rupture due to pressure buildup.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Toluene-1,3-Diisocyanate :

Guideline ACGIH:	ACGIH TLV-TWA 0.005 ppm
Notes :	Only established PEL and TLV values for the ingredients are listed below.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	Clear
Odor:	Sharp, pungent
Boiling Point:	400-490°F (204.4-254.4°C) @ 5 mmHg
Melting Point:	Not determined.
Specific Gravity:	1.0
Solubility:	Reacts.
Vapor Density:	>1 (air = 1)
Vapor Pressure:	Not determined.
Percent Volatile:	0
Evaporation Rate:	<1 (butyl acetate = 1)
pH:	Not determined.
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	209°F (98.3°C)
Flash Point Method:	Cleveland Open Cup.
Auto Ignition Temperature:	Not determined.
VOC Content:	0 g/L
Percent Solids by Weight	

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Polymerization may occur under certain conditions.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Moisture and extended exposure over 85 F.
Incompatible Materials:	Alcohols, amines, strong bases (alkali, ammonia), acids, metal compounds, moisture or water. Resin reacts with water to give off carbon dioxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toluene-1,3-Diisocyanate :

Skin:	Skin - Rabbit Open irritation test: 500 mg - [severe](RTECS) Skin - Rabbit LD50: >10 mL/kg - [Details of toxic effects not reported other than lethal dose value](RTECS)
Inhalation:	Inhalation - Mouse LC50: 9700 ppb/4H - [Behavioral - excitement Lungs, Thorax, or Respiration - dyspnea Gastrointestinal - changes in structure or function of salivary glands] (RTECS)
Ingestion:	Oral - Rat LD50: 4130 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS) Oral - Mouse LD50: 1950 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS)
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans NTP: Reasonably anticipated to be a human carcinogen

Butyrolactone :

Skin:	Skin - Rabbit Standard Draize Test : 500 uL - [severe](RTECS) Skin - Guinea pig LD50: >5 gm/kg - [Details of toxic effects not reported other than lethal dose value](RTECS)
Inhalation:	Inhalation - Rat LC50: >5100 mg/m3/4H - [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50: 1540 mg/kg - [oral - altered sleep time (including change in righting reflex) oral - somnolence (general depressed activity) Lungs, Thorax, or rat - rat depression] (RTECS) Oral - Mouse LD50: 1460 mg/kg - [oral - general anesthetic oral - somnolence (general depressed activity) Lungs, Thorax, or rat - rat depression] (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number:	None

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	Non regulated. Material (Domestic U.S.)
DOT UN Number:	1139
DOT Hazard Class:	Not applicable.
DOT Packing Group:	II

SECTION 15 - REGULATORY INFORMATION

Toluene diisocyanate (TDI) based polymer :

TSCA Inventory Status:	Listed

Toluene-1,3-Diisocyanate :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.

Butyrolactone :

TSCA Inventory Status:	Listed
Canadian Regulations.	WHMIS Hazard Class(es): D2B; D2A All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms

SECTION 16 - ADDITIONAL INFORMATION

HMIS Fire Hazard:	1
HMIS Health Hazard:	3*
HMIS Reactivity:	1
HMIS Personal Protection:	X
MSDS Revision Date:	10/10/2006
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

ITW DEVCON **FUTURA COATINGS**

View MSDS : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**GEOTHANE 520B TAN #7249**
MSDS Manufacturer Number:	00520B22-P1
Manufacturer Name:	ITW Devcon Futura
Address:	30 Endicott Street Danvers, MA 01923
General Phone Number:	(978) 777-1100
Emergency Phone Number:	(800) 424-9300
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec:	In Canada, call CANUTEC: (613) 996-6666 (call collect)
MSDS Revision Date:	10/10/2006

HMIS

Health Hazard	2*
Fire Hazard	2
REACTIVITY	0
Personal Protection	X

* Chronic Health Effects:

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Urethane bisoxazolidine	59719-67-4	5 - 10 by Weight
Titanium dioxide	13463-67-7	5 - 10 by Weight
Trade secret.	N/A	30 - 60 by Weight
Aromatic Oil	64741-81-7	30 - 60 by Weight
1,4-Butanediol	110-63-4	1 - 5 by Weight
Inert material	N/A	1 - 5 by Weight
Castor oil	8001-79-4	1 - 5 by Weight
Yellow Iron Oxide	51274-00-1	1 - 5 by Weight
Fillers	N/A	1 - 5 by Weight
Calcium Oxide	1305-78-8	1 - 5 by Weight
Potassium Oxide	12136-45-7	1 - 5 by Weight
Sodium Oxide	1313-59-3	1 - 5 by Weight

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:	WARNING! Harmful. Potential Sensitizer Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury.
Skin:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like

	symptoms in susceptible individuals.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Chronic Health Effects:	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

Flammable Properties:	Combustible.
Flash Point:	176°F (80°C)
Flash Point Method:	Cleveland Open Cup.
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water may cause frothing.
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Sealed containers at elevated temperatures may rupture explosively and spread fire due to polymerization.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Cleanup Measures:	Absorb spill with inert material (e,g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. Neutralize residue with appropriate neutralizer. Do not attempt to neutralize large quantities of material unless measures to control reactivity and heat generation have been taken. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Other Precautions:	Pump or shovel to storage/salvage vessels.

SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.

Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Titanium dioxide :	
Guideline ACGIH:	ACGIH TLV-TWA 10 mg/m3
Calcium Oxide :	
Guideline ACGIH:	ACGIH TLV-TWA 2 mg/m3
Guideline OSHA:	OSHA PEL-TWA 5 mg/m3
Notes :	Only established PEL and TLV values for the ingredients are listed below.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	light brown.
Odor:	aromatic.
Boiling Point:	442-739°F (227.7-392.7°C) @ 5 mmHg
Melting Point:	Not determined.
Specific Gravity:	1.15
Solubility:	insoluble
Vapor Density:	>1 (air = 1)
Vapor Pressure:	Not determined.
Percent Volatile:	0.7
Evaporation Rate:	<1 (butyl acetate = 1)
pH:	Not determined.
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	176°F (80°C)
Flash Point Method:	Cleveland Open Cup.
Auto Ignition Temperature:	Not determined.
VOC Content:	5.8 g/L
Percent Solids by Weight	Not determined.

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Extended exposure over 110°F (38°C).
Incompatible Materials:	Oxidizers, acids, bases, isocyanates.

SECTION 11 - TOXICOLOGICAL INFORMATION

Titanium dioxide :

Skin:	Skin - Human Standard Draize Test : 300 ug/3D-I - [mild](RTECS)
Inhalation:	Inhalation - Rat TCLo - Lowest published toxic concentration: 1 mg/kg - [Lungs, Thorax, or Respiration - other changes Biochemical - Metabolism (Intermediary) - effect on inflammation or mediation of inflammation] (RTECS)
Ingestion:	Oral - Rat TDLo - Lowest published toxic dose: 60 gm/kg - [Gastrointestinal - hypermotility, diarrhea Gastrointestinal - other changes] (RTECS)
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans

1,4-Butanediol :

Inhalation:	Inhalation - Rat LCLo - Lowest published lethal concentration: 15 gm/m3/4H - [Sense Organs and Special Senses (Olfaction) - effect, not otherwise specified Lungs, Thorax, or Respiration - other changes Nutritional and Gross Metabolic - weight loss or decreased weight gain] (RTECS)
Ingestion:	Oral - Rat LD50: 1525 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS) Oral - Mouse LD50: 2062 mg/kg - [oral - altered sleep time (including change in righting reflex) oral - somnolence (general depressed activity) Blood - other changes] (RTECS) Oral - Mouse LD50: 2062 mg/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS)

Castor oil :

Eye:	Eye - Rabbit Standard Draize Test: 500 mg - [mild](RTECS)
Skin:	Skin - Guinea pig Standard Draize Test: 100 mg/24H - [mild](RTECS)
Ingestion:	Oral - Rat TDLo: 10 mL/kg - [Gastrointestinal - hypermotility, diarrhea] (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number:	None

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	Non regulated.
DOT Hazard Class:	Not applicable.

SECTION 15 - REGULATORY INFORMATION

Urethane bisoxazolidine :

TSCA Inventory Status:	Listed

Titanium dioxide :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the Pennsylvania State Hazardous Substances List.

Aromatic Oil :

TSCA Inventory Status:	Listed

1,4-Butanediol :

TSCA Inventory Status:	Listed

Castor oil :

TSCA Inventory Status:	Listed

Yellow Iron Oxide :

TSCA Inventory Status:	Listed

Calcium Oxide :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the State of Massachusetts Hazardous Substance List. Listed in the Pennsylvania State Hazardous Substances List.

Potassium Oxide :

TSCA Inventory Status:	Listed

Sodium Oxide :

TSCA Inventory Status:	Listed
Canadian Regulations.	WHMIS Hazard Class(es): B3; D2B All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms

SECTION 16 - ADDITIONAL INFORMATION

HMIS Fire Hazard:	2
HMIS Health Hazard:	2*
HMIS Reactivity:	0
HMIS Personal Protection:	X
MSDS Revision Date:	10/10/2006
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

International MATERIAL SAFETY DATA SHEET

prepared 07/29/10

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to headache, nausea, chest pain, coughing, difficulty of breathing, pneumoconiosis.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause severe skin irritation or burns.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause severe eye irritation or burns, corneal injury.

Ingestion : Ingestion may cause mouth and throat irritation, gastro-intestinal disturbances, central nervous system depression, kidney damage.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may burst if exposed to extreme heat or fire.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, acrylic monomers.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Ventilate area. Spills may be collected with absorbent materials. Evacuate all unnecessary personnel. Place collected material in proper container. Spilled material is extremely slippery. Complete personal protective equipment must be used during cleanup. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep away from heat, sparks and open flame. Keep from freezing.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Empty containers may contain hazardous residues.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, face shield, apron.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, freezing, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : No additional effects are anticipated

Carcinogenicity : In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : No reproductive effects are anticipated

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
659S0100	devflex 659 dtm gloss waterborne acrylic enamel white tint base	10.34	93.04	59.62	none	97-316	*310	paint ** protect from freezing **
659S0300	devflex 659dtm gloss waterborne acrylic enamel intermediate tint base	9.22	98.85	60.28	none	97-316	*310	paint ** protect from freezing **
659S0400	devflex 659dtm gloss waterborne acrylic enamel deep tint base	8.93	99.58	63.89	none	97-316	310	paint ** protect from freezing **

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	659S0100	659S0300	659S0400
titanium oxide	titanium dioxide	13463-67-7	20-30	5-10	1-5
2-propanol,1-(2-butoxy-1-methylethoxy)-	dipropylene glycol butyl ether	29911-28-2	1-5	1-5	1-5
ceramic materials and wares, chemicals	calcined kaolin clay	66402-68-4		1-5	1-5
2-propanol, 1-phenoxy-	propylene glycol phenyl ether	770-35-4	1-5	1-5	1-5
water	water	7732-18-5	40-50	50-60	50-60
acrylic resin	acrylic resin	Sup. Conf.	20-30	30-40	30-40
trade secret	trade secret	Sup. Conf.	1-5	1-5	1-5

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
dipropylene glycol butyl ether	29911-28-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
calcined kaolin clay	66402-68-4	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
propylene glycol phenyl ether	770-35-4	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
trade secret	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

Material Safety Data Sheet

BASF
The Chemical Company

HYDROCIDE® 600, 700, 700B

Version 1.7 06/27/2006

1. PRODUCT AND COMPANY INFORMATION

Company	:	**BASF Building Systems, Inc.** 889 Valley Park Drive Shakopee, MN 55379
Telephone	:	952-496-6000
Emergency telephone number	:	(800) 424-9300 (703) 527-3887 (Outside Continental US)
Product name	:	HYDROCIDE® 600, 700, 700B
MSDS ID No.	:	10583
TSCA Inventory	:	All components of this product are included, or are exempt from inclusion, in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Canadian DSL	:	All components of this product are included, or are exempt from inclusion, in the Canadian Domestic Substance List (DSL).
Product Use Description	:	Coating

2. HAZARDOUS INGREDIENTS

Chemical	CAS No.	TLV	STEL	PEL	CEIL	Weight %
ASPHALT PETROLEUM	8052-42-4	0.5 mg/m3	N.E.	N.E.	N.E.	30.00 - 60.00 %

3. HAZARDS IDENTIFICATION

	HEALTH	FLAMMABILITY	PHYSICAL HAZARD
HMIS® Rating	1	1	0

WHMIS Class	:	D2B
Primary Routes of Entry	:	Inhalation Ingestion

Effects of Overexposure

Inhalation	:	Can cause slight irritation.
Skin	:	Can cause slight irritation.
Eyes	:	Can cause slight irritation.
Ingestion	:	Can cause slight irritation.
Chronic exposure	:	No known information available.

Carcinogenicity

	ACGIH	IARC	NTP	OSHA
ASPHALT PETROLEUM	Not classifiable as a human carcinogen.	Possible carcinogen.	N.E.	N.E.

4. FIRST AID MEASURES

Eye contact	:	Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.
Skin contact	:	Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.
Ingestion	:	Do not induce vomiting without medical advice. If conscious, drink plenty of water. If a person feels unwell or symptoms of skin irritation appear, consult a physician. If a person vomits, place him/her in the recovery position. Never give anything by mouth to an unconscious person.
Inhalation	:	Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek immediate medical attention.

5. FIRE-FIGHTING MEASURES

Flash point	:	> 450.00 °F (232.22 °C)
Autoignition temperature	:	no data available
Lower explosion limit	:	no data available
Upper explosion limit	:	no data available
Suitable extinguishing media	:	carbon dioxide (CO2) foam dry chemical water fog
Fire and Explosion Hazards	:	Containers can build up pressure if exposed to heat (fire). Cool closed containers exposed to fire with water spray.
Special Fire-fighting Procedures	:	As in any fire, wear pressure demand self-contained breathing apparatus (NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up	:	Wear appropriate protective equipment (refer to section 8). Take action to eliminate source of leak; prevent from entry into open streams or sewers; contain spill by diking; vacuum up liquid or use absorbent media; remove to storage for disposal and rinse residual stain with water.

7. HANDLING AND STORAGE

Handling	:	Keep out of reach of children. For personal protection see section 8.
Storage	:	Keep tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye protection	:	Wear as appropriate: safety glasses with side-shields goggles face-shield
Hand protection	:	Wear as appropriate: impervious gloves
Body Protection	:	Wear as appropriate: impervious clothing preventive skin protection
Respiratory protection	:	In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use NIOSH approved respirators.
Hygienic Practices	:	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice.
Engineering Controls	:	Local exhaust ventilation can be necessary to control any air contaminants to within their TLVs during the use of this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color	:	brown
Physical State	:	liquid
Odor	:	hydrocarbon-like
pH	:	5 - 7
Odor Threshold	:	no data available
Vapor Pressure	:	60 mm/Hg at 100.00 °F (37.78 °C)
Vapor Density	:	no data available
Boiling point/range	:	212 °F (100 °C)
Freeze Point	:	no data available
Water solubility	:	partly miscible
Specific Gravity	:	1.1 - 1.2

Viscosity	:	100,000 cps
Evaporation rate	:	Slower than Butyl acetate
Partition coefficient (n-octanol/water)	:	no data available
VOC Concentration as applied (less water and exempt solvents)	:	24 g/l

10. STABILITY AND REACTIVITY

Stability	:	Stable under recommended storage conditions.
Conditions to avoid	:	Prolonged exposure to high temperatures
Materials to avoid	:	strong oxidizing agents
Hazardous decomposition products	:	Oxides of carbon
Hazardous polymerization	:	Will not occur under normal conditions.

11. TOXICOLOGICAL INFORMATION

Acute inhalation toxicity

	Type	Value	Species	Exposure time
Product	LC50	no data available		
Component				
ASPHALT PETROLEUM	LC50	no data available		

Acute oral toxicity

	Type	Value	Species
Product	LD50 (Oral)	no data available	
Component			
ASPHALT PETROLEUM	LD50 (Oral)	no data available	

Acute dermal toxicity

	Type	Value	Species

Product	LD50 (Dermal) no data available
Component	
ASPHALT PETROLEUM	LD50 (Dermal) no data available

12. ECOLOGICAL INFORMATION

Ecotoxicological Information : There is no data available for this product.

13. DISPOSAL CONSIDERATIONS

Recommendations: Use excess product in an alternate beneficial application. Handle disposal of waste material in manner which complies with local, state, province and federal regulation.

14. TRANSPORT INFORMATION

DOT	: Proper shipping name	Not regulated
IATA	: Proper shipping name	Not regulated

15. REGULATORY INFORMATION

SARA 311/312 (RTK)
This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE (ACUTE) HEALTH HAZARD

SARA 313
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

Weight %	CAS No.	Chemical Name

This product contains no chemicals subject to the SARA 313 supplier notification requirements.

CERCLA
CERCLA section 103(a) specifically requires the person in charge of a vessel or facility to report immediately to the National Response Center (NRC) a release of a hazardous substance whose amount equals or exceeds the assigned RQ. The following hazardous substances are contained in this product.

RQ	CAS No.	Chemical Name
100 lbs	8052-42-4	ASPHALT PETROLEUM

TSCA Section 12(b) Export Notification

BASF
The Chemical Company

HYDROCIDE® 600, 700, 700B

Version 1.7 06/27/2006

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

CAS No.	Chemical Name

There are no TSCA 12(b) Chemicals in this product.

California Proposition 65
The chemical(s) noted below and contained in this product, are known to the state of California to cause cancer, birth defects or other reproductive harm. Unless otherwise specified in Section 2 of this MSDS, these chemicals are present at < 0.1%:

CAS No.	Chemical Name

There are no Proposition 65 chemicals known to exist in this product.

16. OTHER INFORMATION

Legend	:	N.E. - Not Established TLV - Threshold Limit Value STEL - Short Term Exposure Limit PEL - Permissible Exposure Limit CEIL - Ceiling
Prepared By	:	Environment, Health and Safety Department

This information is furnished without warranty, representation, or license of any kind, except that this information is accurate to the best of the manufacturer's knowledge, or is obtained from sources believed by the manufacturer to be accurate and is not intended to be all inclusive. No warranty is expressed or implied regarding the accuracy of this information or the results to be obtained from its use thereof. The manufacturer assumes no responsibility for injuries proximately caused by use of the Material if reasonable safety procedures are not followed as stipulated in this Data Sheet. Additionally, the manufacturer assumes no responsibility for injuries proximately caused by abnormal use of the Material even if reasonable safety procedures are followed. Buyer assumes the risk in its use of the Material.

End of MSDS.

MATERIAL SAFETY DATA SHEET

prepared 04/23/10

Akzo Nobel Paints 15885 Sprague Road Strongsville, Ohio 44136 EMERGENCY TELEPHONE NO. (800) 545-2643

GLIDDEN PROFESSIONAL HIGH-HIDE PRIMER

GP1000

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, chest pain, coughing, central nervous system depression, difficulty of breathing, kidney damage, pneumoconiosis.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting. Possible sensitization to skin.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis.

Ingestion : Ingestion may cause mouth and throat irritation, dizziness and/or lightheadedness, headache, vomiting, gastro-intestinal disturbances, severe abdominal pain, apathy, central nervous system depression, respiratory problems, intoxication, kidney damage, pulmonary edema, loss of consciousness, acute poisoning, respiratory failure, cardiac failure, brain damage.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, lung disorders, kidney disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Closed containers may burst if exposed to extreme heat or fire.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Ventilate area. Spills may be collected with absorbent materials. Place collected material in proper container.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep away from heat, sparks and open flame. Keep from freezing.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers. Styrene monomer.

Conditions to avoid : Contact with oxidizing agent, freezing, open flame.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : No additional effects are anticipated

Carcinogenicity : Inhalation of non-asbestiform cosmetic grade talc for 2 years at 6 and 18 mg/m3 produced clear evidence of carcinogenicity in female rats (lung and adrenal tumors) and some evidence of carcinogenicity in male rats (adrenal tumors). No evidence of carcinogenicity was demonstrated in male and female mice exposed under the same conditions. Microscopic examination of the lungs of rats and mice exposed to talc revealed additional exposure related effects primarily associated with the inflammatory response. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : No reproductive effects are anticipated

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : Some laboratory test results have shown ethylene glycol to be an animal teratogen. However, an expert panel convened by the national toxicology program's center for the evaluation of risks to human reproduction (cerhr) conducted a review of the scientific literature and concluded that ethylene glycol does not present a significant concern with respect to developmental and reproductive toxicity in humans.

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
1000-1200	high hide primer white	11.03	92.61	70.91	none	212-400	*310	paint ** protect from freezing **

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	1000-1200
1,2-ethanediol	ethylene glycol	107-21-1	1-5
kaolin	clay	1332-58-7	5-10
titanium oxide	titanium dioxide	13463-67-7	5-10
talc	talc	14807-96-6	5-10
2-propenoic acid, butyl ester, polymer with ethenyl acetate	vinyl acrylic latex	25067-01-0	10-20
ceramic materials and wares, chemicals	calcined kaolin clay	66402-68-4	5-10
water	water	7732-18-5	50-60

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
ethylene glycol	107-21-1	not est.	not est.	100 mg/m3	not est.	not est.	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
clay	1332-58-7	2 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
talc	14807-96-6	2 mg/m3	not est.	not est.	not est.	.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
vinyl acrylic latex	25067-01-0	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
calcined kaolin clay	66402-68-4	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

MATERIAL SAFETY DATA SHEET

prepared 04/23/10

Akzo Nobel Paints 15885 Sprague Road Strongsville, Ohio 44136 EMERGENCY TELEPHONE NO. (800) 545-2643

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, nausea, coughing, central nervous system depression, difficulty of breathing, severe lung irritation or damage, kidney damage.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting. Possible sensitization to skin.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, tearing of eyes, redness of eyes.

Ingestion : Ingestion may cause mouth and throat irritation, dizziness and/or lightheadedness, headache, nausea, vomiting, gastro-intestinal disturbances, severe abdominal pain, abdominal pain, apathy, central nervous system depression, respiratory problems, intoxication, kidney damage, pulmonary edema, loss of consciousness, acute poisoning, respiratory failure, cardiac failure, brain damage.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, asthma-like conditions, kidney disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may burst if exposed to extreme heat or fire.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, acrylic monomers. Oxides of calcium.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Ventilate area. Spills may be collected with absorbent materials. Place collected material in proper container. Spilled material is extremely slippery.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep away from heat, sparks and open flame. Keep from freezing.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, ammonium salts.

Conditions to avoid : Contact with oxidizing agent, freezing, open flame.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : No additional effects are anticipated

Carcinogenicity : Contains formaldehyde, a potential cancer hazard. Rats exposed to formaldehyde via inhalation developed cancer of the nasal cavity. Evidence in humans is limited (nasal and nasopharyngeal cancer). Formaldehyde is listed as a carcinogen by OSHA, probable human carcinogen (group 2a) by IARC, and a known human carcinogen by NTP. Overexposure can cause eye, skin, and respiratory tract irritation, and skin and respiratory sensitization. Contains a chemical which is a possible cancer hazard based on tests with laboratory animals. Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : No reproductive effects are anticipated

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : Some laboratory test results have shown ethylene glycol to be an animal teratogen. However, an expert panel convened by the national toxicology program's center for the evaluation of risks to human reproduction (cerhr) conducted a review of the scientific literature and concluded that ethylene glycol does not present a significant concern with respect to developmental and reproductive toxicity in humans.

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
2260-0100	decra-flex 300 smooth white	11.11	46.05	56.63	none	212-400	*310	paint ** protect from freezing **
2260-0400	decra-flex 300 smooth deep tint base	10.66	47.80	58.56	none	212-400	*310	paint ** protect from freezing **

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	2260-0100	2260-0400
1,2-ethanediol	ethylene glycol	107-21-1	1-5	1-5
limestone	limestone	1317-65-3	1-5	1-5
titanium oxide	titanium dioxide	13463-67-7	5-10	1-5
cristobalite	crystalline silica, cristobalite	14464-46-1	.1-1.0	.1-1.0
1,3-benzenedicarbonitrile, 2,4,5,6-tetrachloro-	mildewcide	1897-45-6	.1-1.0	
nepheline syenite	feldspar-type minerals	37244-96-5	20-30	20-30
formaldehyde	formaldehyde	50-00-0	.01-.1	
kieselguhr, soda ash flux-calcined	silica, diatomaceous earth	68855-54-9	.1-1.0	.1-1.0
water	water	7732-18-5	30-40	40-50
acrylic resin	acrylic resin	Sup. Conf.	20-30	20-30

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC	H	M	N	I	O
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.								
ethylene glycol	107-21-1	not est.	not est.	100 mg/m3	not est.	not est.	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
limestone	1317-65-3	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
crystalline silica, cristobalite	14464-46-1	.025 mg/m3	not est.	not est.	not est.	0.05 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
mildewcide	1897-45-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	n	n	n	n	y	n
feldspar-type minerals	37244-96-5	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
formaldehyde	50-00-0	not est.	not est.	0.3 ppm	not est.	0.75 ppm	2 ppm	not est.	not est.	not est.	y	y	y	y	n	y	y	y
silica, diatomaceous earth	68855-54-9	10 mg/m3	not est.	not est.	not est.	6 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

MATERIAL SAFETY DATA SHEET

prepared 04/28/10

Akzo Nobel Paints 15885 Sprague Road Strongsville, Ohio 44136 EMERGENCY TELEPHONE NO. (800) 545-2643

GLIDDEN PROFESSIONAL CC BOND PREP

GP3030

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to coughing, sneezing.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause tearing of eyes, redness of eyes.

Ingestion : Ingestion may cause nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may burst if exposed to extreme heat or fire. May decompose under fire conditions emitting irritant and/or toxic gases. In closed tanks, water or foam may cause frothing or eruption.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide. Oxides of calcium.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Spills may be collected with absorbent materials. Evacuate all unnecessary personnel. Place collected material in proper container. Complete personal protective equipment must be used during cleanup. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep from freezing.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, ammonium salts, magnesium.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, freezing, sparks, open flame.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : No additional effects are anticipated

Carcinogenicity : Contains formaldehyde, a potential cancer hazard. Rats exposed to formaldehyde via inhalation developed cancer of the nasal cavity. Evidence in humans is limited (nasal and nasopharyngeal cancer). Formaldehyde is listed as a carcinogen by OSHA, probable human carcinogen (group 2a) by IARC, and a known human carcinogen by NTP. Overexposure can cause eye, skin, and respiratory tract irritation, and skin and respiratory sensitization. Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : No reproductive effects are anticipated

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
3030-1200	conc ctgs bond-prep bonding primer white	11.08	98.20	65.90	none	212-501	310	paint ** protect from freezing **

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	3030-1200
titanium oxide	titanium dioxide	13463-67-7	5-10
quartz	quartz	14808-60-7	.1-1.0
propanoic acid, 2-methyl-, monoester with 2,2,4-trimethyl-1,3-pentanediol	texanol	25265-77-4	1-5
2-propenoic acid, 2-methyl-, methyl ester, polymer with ethenylbenzene and 2-ethylhexyl 2-propenoate	styrene copolymer	25750-06-5	5-10
calcium carbonate	calcium carbonate	471-34-1	20-30
formaldehyde	formaldehyde	50-00-0	.01-.1
water	water	7732-18-5	40-50
styrene acrylic copolymer	styrene acrylic copolymer	Sup. Conf.	5-10

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
quartz	14808-60-7	.025 mg/m3	not est.	not est.	not est.	0.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
texanol	25265-77-4	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
calcium carbonate	471-34-1	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
formaldehyde	50-00-0	not est.	not est.	0.3 ppm	not est.	0.75 ppm	2 ppm	not est.	not est.	not est.	y	y	y	y	n	y	y	y

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

International MATERIAL SAFETY DATA SHEET

prepared 07/29/10

Akzo Nobel Paints 15885 Sprague Road Strongsville, Ohio 44136 EMERGENCY TELEPHONE NO. (800) 545-2643

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, nausea, coughing, sneezing, central nervous system depression, kidney damage, pneumoconiosis.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting. Possible sensitization to skin.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, tearing of eyes, redness of eyes.

Ingestion : Ingestion may cause mouth and throat irritation, dizziness and/or lightheadedness, headache, nausea, vomiting, diarrhea, gastro-intestinal disturbances, severe abdominal pain, abdominal pain, apathy, central nervous system depression, respiratory problems, intoxication, kidney damage, pulmonary edema, loss of consciousness, acute poisoning, respiratory failure, cardiac failure, brain damage.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, lung disorders, kidney disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may burst if exposed to extreme heat or fire. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, acrylic monomers. Oxides of calcium.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Ventilate area. Spills may be collected with absorbent materials. Place collected material in proper container. Spilled material is extremely slippery.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep away from heat, sparks and open flame. Keep from freezing.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, ammonium salts, magnesium. Styrene monomer.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, freezing, open flame.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : No additional effects are anticipated

Carcinogenicity : Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : No reproductive effects are anticipated

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : Some laboratory test results have shown ethylene glycol to be an animal teratogen. However, an expert panel convened by the national toxicology program's center for the evaluation of risks to human reproduction (cerhr) conducted a review of the scientific literature and concluded that ethylene glycol does not present a significant concern with respect to developmental and reproductive toxicity in humans.

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
4000-1000	bloxfil 4000 interior/exterior heavy duty acrylic block filler white	13.53	64.34	53.94	none	212-400	*210	paint ** protect from freezing **

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	4000-1000
1,2-ethanediol	ethylene glycol	107-21-1	1-5
kaolin	clay	1332-58-7	10-20
titanium oxide	titanium dioxide	13463-67-7	1-5
quartz	quartz	14808-60-7	.1-1.0
calcium carbonate	calcium carbonate	471-34-1	30-40
water	water	7732-18-5	30-40
acrylic resin	acrylic resin	Sup. Conf.	1-5

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
ethylene glycol	107-21-1	not est.	not est.	100 mg/m3	not est.	not est.	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
clay	1332-58-7	2 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
quartz	14808-60-7	.025 mg/m3	not est.	not est.	not est.	0.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
calcium carbonate	471-34-1	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

International MATERIAL SAFETY DATA SHEET

prepared 07/29/10

Akzo Nobel Paints 15885 Sprague Road Strongsville, Ohio 44136 EMERGENCY TELEPHONE NO. (800) 545-2643

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to loss of appetite, mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, nausea, coughing, central nervous system depression, intoxication, difficulty of breathing, bronchitis, severe lung irritation or damage, convulsions, loss of consciousness, asphyxiation.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting. Skin contact may result in dermal absorption of component(s) of this product which may cause central nervous system depression.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, tearing of eyes, redness of eyes.

Ingestion : Ingestion may cause lung inflammation and damage due to aspiration of material into lungs, mucous membrane irritation, dizziness and/or lightheadedness, headache, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, central nervous system depression, intoxication.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Closed containers may burst if exposed to extreme heat or fire. Dust explosion hazard. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, oxides of nitrogen, oxides of sulfur, toxic gases. Oxides of calcium.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Spills may be collected with absorbent materials. Place collected material in proper container. Prevent airborne particulates from forming. Complete personal protective equipment must be used during cleanup. Sweep up material. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep away from heat, sparks and open flame. Keep from freezing. Keep container tightly closed in a well-ventilated area.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, bases, aluminum, ammonium salts, magnesium.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, high concentration of dust, freezing, sparks, open flame, ignition sources, extremes in temperature.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that may be absorbed through skin. Excessive inhalation of fumes may lead to metal fume fever characterized by a metallic taste in mouth, excessive thirst, coughing, weakness, fatigue, muscular pain, nausea, chills and fever. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Nuisance dust hazard - overexposure may cause mechanical irritation of eyes, skin, and respiratory tract. Contains iron oxide, repeated or prolonged exposure to iron oxide dust may cause siderosis, a benign pneumoconiosis. Other effects of overexposure may include toxicity to liver, kidney, blood.

Carcinogenicity : Stoddard solvent iic has been shown to cause kidney tumors in male rats in a national toxicology program (NTP) study. These tumors were associated with a specific protein, alpha- 2u-microglobulin. Because humans do not produce this protein stoddard solvent iic has not been classified as a human carcinogen. Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

Reproductive effects : No reproductive effects are anticipated

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
4020-1000	devflex 4020 dtm flat interior/exterior waterborne primer & finish - white	11.73	75.00	55.81	none	212-453	*310	paint ** protect from freezing **
4020-7100	devflex 4020 dtm flat interior/exterior waterborne primer & finish - red oxide	11.28	78.77	58.08	none	212-453	*310	paint ** protect from freezing **

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	4020-1000	4020-7100
ethanol, 2-(2-butoxyethoxy)-	diethylene glycol monobutyl ether	112-34-5	1-5	1-5
iron oxide	ferric oxide	1309-37-1		5-10
limestone	limestone	1317-65-3	20-30	20-30
titanium oxide	titanium dioxide	13463-67-7	10-20	
quartz	quartz	14808-60-7	5-10	5-10
2-propenoic acid, polymer with butyl 2-propenoate and ethenylbenzene	acrylic latex	25586-20-3	10-20	10-20
solvent naphtha (petroleum), medium aliphatic	medium aliphatic solvent naphtha	64742-88-7	1-5	1-5
water	water	7732-18-5	30-40	30-40

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
diethylene glycol monobutyl ether	112-34-5	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	n	y	n	n	n	n
ferric oxide	1309-37-1	5 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
limestone	1317-65-3	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
quartz	14808-60-7	.025 mg/m3	not est.	not est.	not est.	0.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
medium aliphatic solvent naphtha	64742-88-7	100 ppm	not est.	not est.	not est.	500 x ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:
C=Ceiling - Concentration that should not be exceeded, even instantaneously.
S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.
n/a=not applicable
not est=not established
CC=CERCLA Chemical
ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential
S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard
H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

International MATERIAL SAFETY DATA SHEET

prepared 07/29/10

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, fatigue, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, chest pain, coughing, central nervous system depression, intoxication, anesthetic effect or narcosis, difficulty of breathing, bronchitis, tremors, liver damage, kidney damage, pulmonary edema, loss of consciousness.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, tearing of eyes, redness of eyes.

Ingestion : Ingestion may cause lung inflammation and damage due to aspiration of material into lungs, mouth and throat irritation, mucous membrane irritation, headache, uncoordination, nausea, vomiting, gastro-intestinal disturbances, abdominal pain, central nervous system depression, anesthetic effect or narcosis, difficulty of breathing, pulmonary edema, convulsions, loss of consciousness.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, kidney disorders, liver disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use. If irritation occurs, consult a physician.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may explode when exposed to extreme heat or fire. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Vapors can form explosive mixtures in air at elevated temperatures. Closed containers may burst if exposed to extreme heat or fire. Dust explosion hazard. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus. Self-contained breathing apparatus recommended.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, acrid fumes, oxides of phosphorus, toxic gases, smoke and soot. Oxides of calcium.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Evacuate all unnecessary personnel. Place collected material in proper container. Prevent airborne particulates from forming. Complete personal protective equipment must be used during cleanup. Sweep up material. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep away from heat, sparks and open flame. Keep away from direct sunlight, heat and all sources of ignition.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, face shield.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, bases, aluminum, ammonium salts, nitric acid, combustible materials, magnesium, mineral acids.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, high concentration of dust, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Excessive inhalation of fumes may lead to metal fume fever characterized by a metallic taste in mouth, excessive thirst, coughing, weakness, fatigue, muscular pain, nausea, chills and fever. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Nuisance dust hazard - overexposure may cause mechanical irritation of eyes, skin, and respiratory tract. Contains iron oxide, repeated or prolonged exposure to iron oxide dust may cause siderosis, a benign pneumoconiosis. Other effects of overexposure may include toxicity to liver, kidney, central nervous system.

Carcinogenicity : Inhalation of non-asbestiform cosmetic grade talc for 2 years at 6 and 18 mg/m3 produced clear evidence of carcinogenicity in female rats (lung and adrenal tumors) and some evidence of carcinogenicity in male rats (adrenal tumors). No evidence of carcinogenicity was demonstrated in male and female mice exposed under the same conditions. Microscopic examination of the lungs of rats and mice exposed to talc revealed additional exposure related effects primarily associated with the inflammatory response. In long term (2 year) inhalation studies, the national toxicology program (NTP) found clear evidence of carcinogenic activity in mice and male rats and some evidence of carcinogenic activity in female rats exposed to cumene. Contains crystalline silica which is considered a hazard by inhalation. IARC has classified crystalline silica as carcinogenic to humans (group 1). Crystalline silica is also a known cause of silicosis, a noncancerous lung disease. The national toxicology program (NTP) has classified crystalline silica as a known human carcinogen. The international agency for research on cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (group 2b) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. In a 2 year inhalation study conducted by the national toxicology program (NTP), ethylbenzene vapor at 750 ppm produced kidney and testicular tumors in rats and lung and liver tumors in mice. Genetic toxicity studies showed no genotoxic effects. The relevance of these results to humans is not known. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. Contains methyl ethyl ketoxime (meko). In a lifetime, inhalation study, liver carcinomas were observed in rodents exposed to meko. The relevance to humans is unknown.

Reproductive effects : High exposures to xylene in some animal studies, often at maternally toxic levels, have affected embryo/fetal development. The significance of this finding to humans is not known.

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
4160-1000	devguard 4160 multi purpose tank & structura l primer - white	11.95	400.05	47.44	108 f	277-415	*320	UN1263, paint, combustible liquid, PGIII
4160-6120	devguard 4160 multi-purpose tank & structura l primer - gray	11.73	403.10	47.80	108 f	277-415	*320	UN1263, paint, combustible liquid, PGIII *** protect from freezing******
4160-7100	devguard 4160 multi-purpose tank & structural primer - red	11.94	401.25	47.58	108 f	277-415	*320	UN1263, paint, combustible liquid, PGIII

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	4160-1000	4160-6120	4160-7100
benzene, ethyl-	ethylbenzene	100-41-4	.1-1.0	.1-1.0	.1-1.0
1,3,5-trimethylbenzene	1,3,5-trimethylbenzene	108-67-8	1-5	1-5	1-5
2-heptanone	methyl amyl ketone	110-43-0	5-10	5-10	5-10
iron oxide	ferric oxide	1309-37-1			1-5
zinc oxide	zinc oxide	1314-13-2	1-5	1-5	1-5
limestone	limestone	1317-65-3			1-5
benzene, dimethyl-	xylene	1330-20-7	1-5	1-5	1-5
titanium oxide	titanium dioxide	13463-67-7	5-10	1-5	
calcium metasilicate	wollastonite	13983-17-0	10-20	10-20	10-20
talc	talc	14807-96-6	20-30	20-30	20-30
quartz	quartz	14808-60-7	.1-1.0	.1-1.0	.1-1.0
ethanol	ethyl alcohol	64-17-5	.1-1.0	.1-1.0	.1-1.0
solvent naphtha (petroleum), light aromatic	light aromatic solvent naphtha	64742-95-6	5-10	5-10	5-10
phosphoric acid, zinc salt	zinc phosphate	7779-90-0	1-5	1-5	1-5
stoddard solvent	mineral spirits	8052-41-3	1-5	1-5	1-5
benzene,1,2,4-trimethyl-	pseudocumene	95-63-6	5-10	5-10	5-10
benzene, (1-methylethyl)-	cumene	98-82-8	.1-1.0	.1-1.0	.1-1.0
alkyd resin	alkyd resin	Sup. Conf.	10-20	10-20	10-20
long oil alkyd resin	long oil alkyd resin	Sup. Conf.	5-10	5-10	5-10

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

Common Name	CAS. No.	ACGIH-TLV 8-Hour TWA	ACGIH-TLV STEL	ACGIH-TLV C	ACGIH-TLV S	OSHA-PEL 8-Hour TWA	OSHA-PEL STEL	OSHA-PEL C	OSHA-PEL S	S.R. Std.	S2	S3	CC	H	M	N	I	O
ethylbenzene	100-41-4	100 ppm	125 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	y	n
1,3,5-trimethylbenzene	108-67-8	25 ppm	35 ppm	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
methyl amyl ketone	110-43-0	50 ppm	not est.	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
ferric oxide	1309-37-1	5 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
zinc oxide	1314-13-2	2 mg/m3	10 mg/m3	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
limestone	1317-65-3	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
xylene	1330-20-7	100 ppm	150 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
wollastonite	13983-17-0	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
talc	14807-96-6	2 mg/m3	not est.	not est.	not est.	.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
quartz	14808-60-7	.025 mg/m3	not est.	not est.	not est.	0.1 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
light aromatic solvent naphtha	64742-95-6	not est.	not est.	not est.	not est.	500x ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
zinc phosphate	7779-90-0	10 mg/m3	not est.	not est.	not est.	15 mg/m3	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
mineral spirits	8052-41-3	100 ppm	not est.	not est.	not est.	500 ppm	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
pseudocumene	95-63-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	n	n	n	n	n	n
cumene	98-82-8	50 ppm	not est.	not est.	not est.	50 ppm	not est.	not est.	y	not est.	n	y	y	y	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

DEVOE HIGH PERFORMANCE COATINGS

AkzoNobel

International MATERIAL SAFETY DATA SHEET

prepared 09/10/10

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, drowsiness, dizziness and/or lightheadedness, headache, nausea, coughing, central nervous system depression, difficulty of breathing, bronchitis.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, allergic response. Possible sensitization to skin. Skin contact may result in dermal absorption of component(s) of this product which may cause headache, nausea, central nervous system depression.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, tearing of eyes, redness of eyes.

Ingestion : Ingestion may cause mouth and throat irritation, dizziness and/or lightheadedness, headache, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, central nervous system depression, intoxication, abnormal blood pressure, kidney damage.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, asthma-like conditions.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may explode when exposed to extreme heat or fire. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Vapors can form explosive mixtures in air at elevated temperatures. Closed containers may burst if exposed to extreme heat or fire. Dust explosion hazard. May decompose under fire conditions emitting irritant and/or toxic gases. In closed tanks, water or foam may cause frothing or eruption.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, oxides of nitrogen, oxides of sulfur, toxic gases, acrylic monomers. Propionaldehyde.

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Evacuate all unnecessary personnel. Place collected material in proper container. Spilled material is extremely slippery. Prevent airborne particulates from forming. Complete personal protective equipment must be used during cleanup. Sweep up material. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 100f (38c). Keep away from heat, sparks and open flame. Keep from freezing. Keep container tightly closed in a well-ventilated area.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Control environmental concentrations below applicable exposure standards when using this material. When respiratory protection is determined to be necessary, use a NIOSH/MSHA (Canadian z94.4) Approved elastomeric sealing- surface facepiece respirator outfitted with organic vapor cartridges and paint spray (dust/mist) prefilters. Determine the proper level of protection by conducting appropriate air monitoring. Consult 29CFR1910.134 For selection of respirators (Canadian z94.4).

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, apron.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, halogens, aluminum, peroxides, nitric acid, hydrofluoric acid, magnesium. Nitrates.

Conditions to avoid : Elevated temperatures, contact with oxidizing agent, high concentration of dust, freezing, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that may be absorbed through skin. Excessive inhalation of fumes may lead to metal fume fever characterized by a metallic taste in mouth, excessive thirst, coughing, weakness, fatigue, muscular pain, nausea, chills and fever. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Nuisance dust hazard - overexposure may cause mechanical irritation of eyes, skin, and respiratory tract. Contains iron oxide, repeated or prolonged exposure to iron oxide dust may cause siderosis, a benign pneumoconiosis. Other effects of overexposure may include toxicity to liver, kidney, lungs, blood.

Carcinogenicity : In 2-year feed studies of c.I. Pigment red 3, there was some evidence of carcinogenic activity in male rats (adrenal gland - benign pheochromocytomas) and female rats (hepatocellular adenomas). There was also some evidence of carcinogenic activity in male mice (adenomas of renal cortex and thyroid gland), but no evidence in female mice. The international agency for research on cancer (IARC) has classified carbon black as possibly carcinogenic to humans (group 2b) based on sufficient evidence in animals and inadequate evidence in humans. In a lifetime inhalation study, exposure to 250 mg/m3 titanium dioxide resulted in the development of lung tumors in rats. These tumors occurred only at dust levels that overwhelmed the animals' lung clearance mechanisms and were different from common human lung tumors in both type and location. The relevance of these findings to humans is unknown but questionable. The international agency for research on cancer (IARC) has classified titanium dioxide as possibly carcinogenic to humans (group 2b) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. C.I. Pigment 5 showed weak hepatocarcinogenic potential in female rats and in male mice. In the female rats, the liver carcinogenicity was accompanied by hepatotoxicity.

Reproductive effects : No reproductive effects are anticipated

Mutagenicity : C.I. Pigment red was found to be mutagenic with and without metabolic activation in salmonella/microsome studies. In vivo tests and in vitro tests on mammalian cells were negative for mutagenicity.

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by akzo nobel paints llc on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
4216-0100L	devflex 4216hpv high performance waterborne acrylic semi gloss enamel white tint base	10.32	90.95	66.27	none	212-453	210	paint**protect from freezing**
4216-0200L	devflex 4216 hpv high performance waterborne acrylic semi-gloss enamel pastel tint base	9.91	90.71	67.44	none	212-453	210	paint**protect from freezing**
4216-0300L	defvlex 4216hpv high performance waterborne acrylic semi-gloss enamel intermed tint base	9.21	91.26	70.05	none	212-453	210	paint**protect from freezing**
4216-0400L	devflex 4216hpv high performance waterborne acrylic semi-gloss enamel deep tint base	8.63	96.18	68.59	none	212-453	210	paint**protect from freezing**
4216-0500L	devflex 4216hpv high performance waterborne acrylic semi-gloss enamel neut tint base	8.50	93.05	69.56	none	212-453	210	paint**protect from freezing**
4216-1000L	devflex 4216hpv high performance waterborne acrylic semi-gloss enamel high hide white	10.31	90.65	66.18	none	212-453	210	paint**protect from freezing**
4216-2973L	devflex 4216hpv high performance waterborne acrylic semi-gloss enamel light gray	10.36	89.67	65.76	none	212-453	*210	paint**protect from freezing**
4216-7460L	devflex 4216hpv high performance waterborne acrylic semi-gl enamel-architectural brown	8.90	97.38	67.52	none	212-453	*210	paint**protect from freezing**
4216-9000L	devflex 4216hpv high performance wateborne acrylic semi-gloss enamel safety red	8.58	97.10	65.59	none	149-453	210	paint**protect from freezing**
4216-9200L	devlex 4216hpv high performance waterborne acrylic semi-gloss enamel safety orange	8.80	98.31	66.39	none	212-501	310	paint**protect from freezing**
4216-9400L	devflex 4216hpv high performance waterborne acrylic semi-gloss enamel safety yellow	9.12	90.67	64.07	none	212-212	210	paint**protect from freezing**
4216-9990L	devflex 4216hpv high performance waterborne acrylic semi-gloss enamel black	8.57	92.73	68.27	none	212-453	*210	paint**protect from freezing**

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	4216-0100L	4216-0200L	4216-0300L	4216-0400L	4216-0500L	4216-1000L	4216-2973L	4216-7460L	4216-9000L	4216-9200L	4216-9400L	4216-9990L
ethanol, 2-(2-butoxyethoxy)-	diethylene glycol monobutyl ether	112-34-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
iron oxide	ferric oxide	1309-37-1								1-5				
9-octadecenoic acid (9z)-, monoester with 1,2-propanediol	propylene glycol monooleate	1330-80-9	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
carbon black	carbon black	1333-86-4							.1-1.0	1-5				1-5
titanium oxide	titanium dioxide	13463-67-7	20-30	10-20	5-10	1-5		20-30	20-30	1-5		1-5	5-10	
2-naphthalenol, 1-((4-methyl-2-nitrophenyl)azo)-	pigment red 3	2425-85-6									5-10			

Ingredients (Continued) Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	4216-0100L	4216-0200L	4216-0300L	4216-0400L	4216-0500L	4216-1000L	4216-2973L	4216-7460L	4216-9000L	4216-9200L	4216-9400L	4216-9990L
propanoic acid, 2-methyl-, monoester with 2,2,4-trimethyl-1,3-pentanediol	texanol	25265-77-4										1-5		
2-naphthalenol, 1-((2,4-dinitrophenyl)azo)-	dinitroaniline orange	3468-63-1										1-5		
c.i. pigment yellow 42	yellow iron oxide	51274-00-1								1-5			1-5	
1,2-propanediol	propylene glycol	57-55-6										1-5	1-5	
butanamide, 2-((2-methoxy-4-nitrophenyl)azo) -n-(2-methoxyphenyl)-3-oxo-	pigment yellow 74	6358-31-2										1-5	1-5	
water	water	7732-18-5	40-50	50-60	50-60	60-70	60-70	40-50	40-50	50-60	50-60	50-60	50-60	60-70
acrylic resin	acrylic resin	Sup. Conf.	20-30	20-30	20-30	30-40	30-40	20-30	20-30	20-30	20-30	20-30	20-30	30-40

Chemical Hazard Data (ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R.	S2	S3	CC					
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S	Std.				H	M	N	I	O
diethylene glycol monobutyl ether	112-34-5	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	n	y	n	n	n	n
ferric oxide	1309-37-1	5 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
propylene glycol monooleate	1330-80-9	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
carbon black	1333-86-4	3.5 mg/m3	not est.	not est.	not est.	3.5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	y	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	y	y	n
pigment red 3	2425-85-6	10 mg/m3	not est.	not est.	not est.	15 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
texanol	25265-77-4	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
dinitroaniline orange	3468-63-1	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
yellow iron oxide	51274-00-1	5 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
propylene glycol	57-55-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
pigment yellow 74	6358-31-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

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S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

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not est=not established
CC=CERCLA Chemical

ppm=parts per million
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Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no