

## 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, dizziness and/or lightheadedness, headache, nausea, chest pain, coughing, central nervous system depression, difficulty of breathing, bronchitis, severe lung irritation or damage.

**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, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, central nervous system depression, intoxication, abnormal blood pressure, liver damage, kidney damage, reproductive system 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. 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 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, 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. 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. 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, 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, halogens, alkalis, aluminum, peroxides, nitric acid, hydrofluoric acid, magnesium, caustics. Nitrates.

**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 :** 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. 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, reproductive system.

**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 :** Prolonged ingestion of diethylene glycol monomethyl ether has resulted in fetal development abnormalities in rats and effects on fertility in mice.

**ECOLOGICAL INFORMATION (ANSI Section 12)**

No ecological testing has been done by ICI paints 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
4216-0100	devflex 4216hp high performance waterborne acrylic semi-gloss enamel white tint base	10.29	221.19	66.25	none	212-453	*210	paint ** protect from freezing **
4216-0200	devflex 4216hp high performance waterborne acrylic semi-gloss enamel pastel tint base	9.92	233.75	67.18	none	212-453	*210	paint ** protect from freezing **
4216-0300	devflex 4216hp high performance waterborne acrylic semi-gloss enamel intermediate tb	9.24	241.48	69.54	none	212-453	*210	paint ** protect from freezing **
4216-0400	devflex 4216hp high performance waterborne acrylic semi-gloss enamel deep tint base	8.67	243.24	69.31	none	212-453	*210	paint ** protect from freezing **
4216-0500	devflex 4216hp high performance waterborne acrylic semi-gloss enamel accent base	8.51	235.24	70.06	none	212-453	*210	paint ** protect from freezing **
4216-1000	devflex 4216hp high performance waterborne acrylic semi-gloss enamel white high hiding	10.33	217.12	65.56	none	212-453	*210	paint ** protect from freezing **
4216-6650	devflex 4216hp high performance waterborne acrylic semi-gloss enamel medium green	8.68	242.31	68.83	none	149-453	*210	paint ** protect from freezing **
4216-7460	devflex 4216hp high performance waterborne acrylic semi-gloss enamel architectural brwn	8.91	232.00	67.34	none	212-453	*210	paint ** protect from freezing **
4216-9000	devflex 4216hp high performance waterborne acrylic semi-gloss enamel safety red	8.59	222.58	65.51	none	149-453	*210	paint ** protect from freezing **
4216-9200	devflex 4216hp high performance waterborne acrylic semi-gloss enamel safety orange	8.80	246.59	68.25	none	212-453	*310	paint ** protect from freezing **
4216-9400	devflex 4216hp high performance waterborne acrylic semi-gloss enamel safety yellow	9.18	220.93	65.34	none	212-453	*310	paint ** protect from freezing **
4216-9990	devflex 4216hp high performance waterborne acrylic semi-gloss enamel black	8.58	224.79	68.01	none	212-453	*210	paint ** protect from freezing **

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

Chemical Name	Common Name	CAS. No.	4216-0100	4216-0200	4216-0300	4216-0400	4216-0500	4216-1000	4216-6650	4216-7460	4216-9000	4216-9200	4216-9400	4216-9990
ethanol, 2-(2-methoxyethoxy)-	diethylene glycol monomethyl ether	111-77-3	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
ethanol, 2-(2-butoxyethoxy)-	diethylene glycol monobutyl ether	112-34-5	1-5	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10
iron oxide	ferric oxide	1309-37-1								1-5				
carbon black	carbon black	1333-86-4								1-5				1-5
titanium oxide	titanium dioxide	13463-67-7	20-30	10-20	10-20	1-5		20-30	.1-1.0	1-5		1-5	5-10	
butanamide, 2-((4-chloro-2-nitrophenyl)azo)- n-(2-methoxyphenyl)-3-oxo-	c.i. pigment yellow 73	13515-40-7											5-10	

**Ingredients (Continued)**

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2-naphthalenol, 1-((4-methyl-2-nitrophenyl)azo)-	pigment red 3	2425-85-6									5-10			
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	40-50	50-60	50-60	50-60	40-50	50-60	50-60	50-60	50-60	40-50	50-60
surfactant	surfactant	Sup. Conf.									1-5			
acrylic resin	acrylic resin	Sup. Conf.	20-30	20-30	20-30	20-30	20-30	20-30	20-30	20-30	20-30	20-30	20-30	30-40
trade secret	trade secret	Sup. Conf.											1-5	
trade secret	trade secret	Sup. Conf.											1-5	

**Chemical Hazard Data**

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

Common Name	CAS. No.	ACGIH-TLV				OSHA-PEL				S.R. Std.	S2	S3	CC	H	M	N	I	O
		8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S									
diethylene glycol monomethyl ether	111-77-3	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
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
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
c.i. pigment yellow 73	13515-40-7	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
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
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
surfactant	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
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
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 airborne 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