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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, blurred vision, coughing, difficulty with speech, 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, 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. 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, corneal injury.

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

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, oxides of sulfur, toxic gases, barium compounds, 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. Eliminate all sources of ignition. 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. 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 80°F. Store below 100°F (38°C). 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. 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 : 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 294.4) 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 see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, bases, amines, water, hydrogen chloride, nitric acid, vinyl polymers, alcohols, metal compounds, combustible materials, hydrogen fluoride, magnesium, caustics.

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. Other effects of overexposure may include toxicity to liver, kidney, central nervous system.

The information contained herein is based on data available at the time of preparation of this data sheet which Akzo Nobel Paints believes to be reliable. However, no warranty is expressed or implied regarding the accuracy of this data. Akzo Nobel Paints shall not be responsible for the use of this information, or of any product, method or apparatus mentioned and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and the health and safety of your employees and the users of this material. Complies with OSHA hazard communication standard 29CFR 1910.1200.

Carcinogenicity: 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

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
378B3501	devthane 378 uva aliphatic urethane s-g enamel - white base	12.04	328.44	37.46	80 f	147-595	330	UN1263, paint, 3, PGIII
378B9400	devthane 378 uva aliphatic urethane s-g enamel - safety yellow	9.83	363.55	42.13	80 f	212-595	330	UN1263, paint, 3, PGIII
378B9500	devthane 378 uva aliphatic urethane s-goss enamel - white tint base	11.83	332.76	38.07	80 f	147-595	*330	UN1263, paint, 3, PGIII
378B9501	devthane 378 uva aliphatic urethane s-goss enamel - deep tint base	11.18	367.17	42.41	80 f	147-595	330	UN1263, paint, 3, PGIII
378B9502	devthane 378 uva aliphatic urethane s-goss enamel - neutral tint base	10.76	339.02	38.61	80 f	212-595	230	UN1263, paint, 3, PGIII
378C0910	devthane 378 converter	9.40	112.85	13.00	135 f	293-293	*341	UN1866, resin solution, combustible liquid, PGIII

Ingredients

Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	378B3501	378B9400	378B9500	378B9501	378C0910
benzene, ethyl-2-heptanone	ethylbenzene	100-41-4	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0
silica gel, precipitated, crystalline-free	methyl amyl ketone	110-43-0	10-20	10-20	10-20	10-20	5-10
ethane, 1,1,1-trimethylidenetrakis(oxy)-tris-	silica, gel, amorphous ethyl orthoformate	112926-00-8	5-10	5-10	5-10	5-10	5-10
acetic acid, butyl ester	butyl acetate	123-86-4	1-5	1-5			1-5
benzene, dimethyl-	xylene	1330-20-7	10-20	10-20	10-20	10-20	10-20
titanium oxide	titanium dioxide	13463-67-7	.1-1.0	.1-1.0	.1-1.0	.1-1.0	5-10
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	20-30	1-5	20-30	10-20	1-5
hexane, 1,6-diisocyanato-, homopolymer	aliphatic polyisocyanate	28182-81-2		10-20			
hindered amine	light stabilizer	41556-26-7		1-5			90-95
butanamide, 2-((2-methoxy-4-nitrophenyl)azo)-n-(2-methoxyphenyl)-3-oxo-	pigment yellow 74	6358-31-2		5-10			
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					1-5
sulfuric acid, barium salt	barium sulfate	7727-43-7	5-10	10-20	10-20	10-20	20-30
castor oil	castor oil, raw	8001-79-4	1-5	5-10	5-10	5-10	5-10
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			
benzene, 1,2,4-trimethyl-	pseudocumene	95-63-6		.1-1.0			1-5
block copolymer with pigment affined groups	paint additive	Sup. Conf.		1-5			
acrylic resin	acrylic resin	Sup. Conf.	20-30	10-20	20-30	20-30	30-40

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.

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	8-Hour TWA	STEL	C									
ethylbenzene	100-41-4	100 ppm	125 ppm	not est.	not est.	100 ppm	not est.	not est.	n	y	y	y	n	n	y	n
methyl amyl ketone	110-43-0	50 ppm	not est.	not est.	not est.	100 ppm	not est.	not est.	n	n	n	n	n	n	n	n
silica, gel. amorphous	112926-00-8	not est.	not est.	not est.	not est.	.8 mg/m3	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.	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.	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.	n	y	y	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.	n	n	n	n	n	n	y	n
acrylic polymer	26916-05-2	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.	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.	n	n	n	n	n	n	n	n
pigment yellow 74	6358-31-2	not est.	not est.	not est.	not est.	500x ppm	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.	5 mg/m3	not est.	not est.	n	n	n	n	n	n	n	n
barium sulfate	7727-43-7	10 mg/m3	not est.	not est.	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.	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.	n	y	y	n	n	n	n	n
oxo-heptyl acetate	90438-79-2	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.	n	y	n	n	n	n	n	n
paint additive	Sup. Conf.	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