International. MATERIAL SAFETY DATA SHEET

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DEVCHEM 253K

HAZARDS IDENTIFICATION (ANSI Section 3)

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

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Inhalation of aerosols and mists may severly damage contacted tissue and produce scarring. Prolonged inhalation may lead to mucous membrane irritation, fatigue, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, chest pain, coughing, apathy, central nervous system depression, intoxication, confusion, anesthetic effect or narcosis, difficulty of breathing, allergic response, tremors, pulmonary edema, convulsions, pneumoconiosis, loss of consciousness.

Skin contact : Irritation of skin, this material is corrosive and may cause burns on contact. Prolonged or repeated contact can cause dermatitis, defatting, allergic response, 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 drowsiness, headache, uncoordination, nausea, vomiting, abdominal pain, central nervous system depression, confusion, kidney damage.

Eye contact : Irritation of eyes, this material is corrosive and may cause burns on contact. Prolonged or repeated contact can cause conjunctivitis, tearing of eyes, redness of eyes, severe eye irritation, severe eye irritation or burns, corneal injury, blindness.

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

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, 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.

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 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. 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, ammonia, organic acids, iodine, aldehydes, toxic gases, phenol, isocyanate, barium compounds. Phenolics, fumes.

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. 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. Do not store in unlined metal containers. 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 : Respiratory protection is required. A positive pressure supplied air respirator should normally be used for spray applications. Following job-specific exposure/air quality evaluations, alternative respiratory equipment may be used in accordance with applicable regulatory standards and general standards for industrial hygiene.

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment. Provide dilution ventilation during application especially when paint is spray applied.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, face shield, boots. Pvc/nitrile or neoprene boots and gloves.

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, aluminum, zinc, copper, hypochlorites, peroxides, metal salts, combustible materials, mineral acids, sodium. Nitrates. Nitrites - nitrites mixed with amines may form a nitrosamine which may cause cancer.

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

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

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that is toxic by ingestion. Contains cyclohexanamine,4,4'-methylenebis-(pacm). Pacm has the potential for chronic toxicity. Liver injury has been observed in animal studies following oral administration. Skin contact with the uncured material should not be permitted. Other toxicity information on pacm includes: salmonella mutagenicity assay (ames test) in the presence and absence of metabolic activation showed no evidence of mutagenicity. Dogs given daily oral doses of 50 mg/kg pacm, 5 days per week for up to 18 months experienced kidney and liver damage. The longest continual exposure period was 18 months, therefore the exposure durations were not long enough to conclude anything about the carcinogenic potential of pacm. Contains poly(methylenecyclohexanamine) (mpca). Toxicity information for mpca includes: salmonella mutagenicity assay (ames test) and analysis of metaphase chromosomes from chinese hamster lung (chl) cells showed no evidence of mutagenicity. In a 14 day dermal toxicity study using 5 male and 5 female new zealand white rabbits, 1 female rabbit died. In the dermal toxicity study, mpca caused severe skin damage and is considered to be corrosive. This material is corrosive; avoid contact. Contains a chemical that may be absorbed through skin. Contact with eyes may cause permanent injury. 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.

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 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. 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. See supplemental health for additional information.

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 : See supplemental health for additional information.

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
253B2750	devchem 253 chemical reisistant lining tank gray	11.91	286.34	34.77	100 f	300-355	*321	UN1263, paint, combustible liquid, PGIII
253B3750	devchem 253 chemical resistant lining - white base	11.93	285.39	34.67	100 f	300-355	*321	UN1263, paint, combustible liquid, PGIII
253B4750	devchem 253 chemical resistant lining pale blue	11.93	286.66	34.82	100 f	300-355	*321	UN1263, paint, combustible liquid, PGIII
253B7750	devchem 253 chemical resistant lining pastel red	11.98	286.54	34.82	100 f	300-355	*321	UN1263, paint, combustible liquid, PGIII
253C0980	devchem 253 chemical resisitant lining converter	9.07	380.84	33.77	above 200f	324-324	311	UN2922, corrosive liquids, toxic, n.o.s., (cycloaliphatic amine/furfuryl alcohol), 8(6.1), PGIII

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

Chemical Name	Common Name	CAS. No.	253B2750	253B3750	253B4750	253B7750	253C0980
benzene, ethyl-	ethylbenzene	100-41-4	.1-1.0	.1-1.0	.1-1.0	.1-1.0	
1,3,5-trimethylbenzene	1,3,5-trimethylbenzene	108-67-8	.1-1.0	.1-1.0	.1-1.0	.1-1.0	
2-heptanone	methyl amyl ketone	110-43-0	10-20	10-20	10-20	10-20	

Ingredients (Continued)

Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	253B2750	253B3750	253B4750	253B7750	253C0980
benzene, dimethyl-	xylene	1330-20-7	.1-1.0	.1-1.0	.1-1.0	.1-1.0	
titanium oxide	titanium dioxide	13463-67-7	10-20	10-20	10-20	10-20	
formaldehyde, polymer with benzenamine, hydrogenate	poly(methylenecyclohexanamine)	135108-88-2					40-50
calcium metasilicate	wollastonite	13983-17-0	1-5	1-5	1-5	1-5	
talc	talc	14807-96-6	5-10	5-10	5-10	5-10	
quartz	quartz	14808-60-7	.1-1.0	.1-1.0	.1-1.0	.1-1.0	
cyclohexanamine, 4,4'-methylenebis-	methylenedi(cyclohexylamine)	1761-71-3					10-20
oxirane,2,2'-{(1-methylethylidene)bis(4,1- phenyleneoxymethylene))bis, homopolymer	epoxy resin	25085-99-8	1-5	1-5	1-5	1-5	
phenol, polymer with formaldehyde, glycidyl ether	phenol-formaldehyde polymer glycidyl ether	28064-14-4	30-40	30-40	30-40	30-40	
solvent naphtha (petroleum), light aromatic	light aromatic solvent naphtha	64742-95-6	1-5	1-5	1-5	1-5	
2-hydroxy-benzoic acid	salicylic acid	69-72-7					5-10
sulfuric acid, barium salt	barium sulfate	7727-43-7	10-20	10-20	10-20	10-20	
benzene,1,2,4-trimethyl-	pseudocumene	95-63-6	1-5	1-5	1-5	1-5	
2-furanmethanol	furfuryl alcohol	98-00-0					30-40
castor oil derivative	rheological additive	Sup. Conf.	1-5	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
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 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
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
poly(methylenecyclohexanamine)	135108-88-2	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
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
methylenedi(cyclohexylamine).	1761-71-3	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
phenol-formaldehyde polymer glycidyl ether	28064-14-4	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
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
salicylic acid	69-72-7	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
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
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
furfuryl alcohol	98-00-0	10 ppm	15 ppm	not est.	y	50 ppm	not est.	not est.	not est.	not est.	n	n	n	n	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
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