MSDS #: 00259 P

DEVOE HIGH PERFORMANCE COATINGS

MATERIAL SAFETY DATA SHEET

prepared 05/09/05

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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 mucous membrane irritation, fatigue, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, diarrhea, abdominal pain, chest pain, blurred vision, coughing, difficulty with speech, apathy, central nervous system depression, intoxication, metallic taste, anesthetic effect or narcosis, difficulty of breathing, bronchitis, fever and chills, dehydration, tremors, respiratory tract burns, liver damage, kidney damage, pulmonary edema, 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, 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, severe abdominal pain, abdominal pain, visual disturbances, apathy, central nervous system depression, 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, asthma-like conditions, 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. 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, toxic gases, toluene diisocyanate, smoke and soot, unidentified organic compounds.

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. Wet down spilled material with water. 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 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 : 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, halogens, amines, aluminum, epoxides, nitric acid, combustible materials, magnesium, 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 is toxic by ingestion. Contains a chemical that is toxic by inhalation. 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. 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 : This product contains a polymeric blocked isocyanate based on toluene diisocyanate (tdi). Free tdi may be released at elevated temperatures during baking. Tdi is highly toxic by inhalation, a severe eye, skin and mucous membrane irritant, and a pulmonary and skin sensitizer. Tdi is classified as a possible human carcinogen by IARC (group 2b) and as a reasonably anticipated carcinogen by NTP. The OSHA and acgih exposure limit is 0.005 Ppm (twa) and 0.02 Ppm (stel). 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. Notice - toluene diisocyanate (tdi) has been reported to be a carcinogen by the national toxicology program (NTP). The international agency for research on cancer (IARC) concluded, based on the NTP study, that there is "sufficient evidence for carcinogenicity of tdi to experimental animals", but "inadequate evidence for carcinogenicity of tdi to humans." 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 : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

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 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
235B1642	bar-rust 235 multi-purpose epoxy coating - buff base	11.79	285.45	33.81	100 f	243-355	*220	paint, combustible liquid, UN 1263, PGIII
235B2531	barrust 235 multi-purpose epoxy coating - im gray base	11.86	289.05	34.20	100 f	243-355	*320	paint, combustible liquid, UN 1263, PGIII
235B2534	bar-rust 235 multi-purpose epoxy coating - medium gray base	11.74	285.09	33.77	100 f	243-355	*220	paint, combustible liquid, UN 1263, PGIII
235B2904	bar-rust 235 multi-purpose epoxy coating - haze gray base	11.69	283.53	33.58	100 f	243-355	*220	paint, combustible liquid, UN 1263, PGIII
235B2973	bar-rust 235 multi-purpose epoxy coating - light gray base	11.74	284.37	33.68	100 f	243-355	*220	paint, combustible liquid, UN 1263, PGIII
235B3501	bar-rust 235 multi-purpose epoxy coating - white base	11.88	287.73	34.07	100 f	243-355	*320	paint, combustible liquid, UN 1263, PGIII
235B7821	bar-rust 235 multi-purpose epoxy coating - oxide red base	11.82	286.29	33.90	100 f	243-355	*220	paint, combustible liquid, UN 1263, PGIII
235B9500	bar-rust 235 multi-purpse epoxy coating whit e tint base	12.08	288.45	34.16	100 f	243-355	*320	paint, combustible liquid, UN 1263, PGIII
235B9501	bar-rust 235 mulri-purpose epoxy coating dee p tint base	11.65	287.61	34.06	100 f	243-355	*320	paint, combustible liquid, UN 1263, PGIII
235B9502	bar-rust 235 multi-purpose epoxy coating neu tral tint base	10.64	297.56	35.24	100 f	243-415	*220	paint, combustible liquid, UN 1263, PGIII
235B9903	bar-rust 235 multi-purpose epoxy coating - black base	11.61	281.14	33.30	100 f	243-355	*220	paint, combustible liquid, UN 1263, PGIII
235C0910	bar-rust 235 multi-purpose epoxy coating - converter for monopak colors	7.98	334.71	36.50	106 f	n/d	320	resin solution, combustible liquid, UN1866, PGIII
235C0980	barrust 235 multi-purpose epoxy coating converter	7.90	331.11	38.40	100 f	243-355	320	paint, combustible liquid, UN 1263, PGIII

Ingredients

Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	235B1642	235B2531	235B2534	235B2904	235B2973	235B3501	235B7821	235B9500	235B9501	235B9502	235B9903	235C0910	235C0980
benzene, ethyl-	ethylbenzene	100-41-4										.1-1.0			
1,2-ethanediamine	ethylenediamine	107-15-3												1-5	1-5
1,3,5-trimethylbenzene	1,3,5-trimethylbenzene	108-67-8	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5		1-5
2-heptanone	methyl amyl ketone	110-43-0	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5		
mica	mica	12001-26-2	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20		
antigorite	antigorite	12135-86-3	5-10	1-5	5-10	5-10	5-10	1-5	5-10	1-5	1-5	5-10	5-10		
iron oxide	ferric oxide	1309-37-1							5-10						
benzene, dimethyl-	xylene	1330-20-7	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5		.1-1.0
carbon black	carbon black	1333-86-4				.1-1.0							1-5		
titanium oxide	titanium dioxide	13463-67-7	1-5	10-20	5-10	1-5	5-10	10-20		10-20	5-10				
tremolite, nonasbestiform	tremolite	14567-73-8	10-20	5-10	10-20	10-20	10-20	5-10	10-20	5-10	5-10	5-10	10-20		
talc	talc	14807-96-6	5-10	5-10	5-10	5-10	5-10	5-10	5-10	1-5	5-10	5-10	5-10		
quartz	quartz	14808-60-7	.1-1.0	.1-1.0					.1-1.0				.1-1.0		
anthophyllite, nonasbestiform	anthophyllite	17068-78-9	1-5	1-5	1-5	1-5	1-5	1-5	1-5	.1-1.0	1-5	1-5	1-5		
aluminum hydroxide	aluminum hydroxide	21645-51-2		1-5				1-5		1-5					
oxirane,2,2'-((1-methylethylidene)bis(4,1-phenyleneoxymethylene))bis, homopolymer	epoxy resin	25085-99-8	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	20-30	10-20		
c.i. pigment yellow 42	yellow iron oxide	51274-00-1	1-5												
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	1-5	5-10	1-5	20-30	10-20
distillates (petroleum), steam-cracked, polymers with light steam-cracked petroleum naphtha	aromatic hydrocarbon resin	68410-16-2	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20	10-20		
nutshell liquid, polymer with ethylenediamine and formaldehyde	alkylated phenolic polyamine	68413-28-5												60-70	60-70
1-butanol	n-butanol	71-36-3	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10
silica	amorphous silica	7631-86-9		1-5				1-5		1-5					
benzene,1,2,4-trimethyl-	pseudocumene	95-63-6	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	5-10	1-5		10-20
castor oil derivative	rheological additive	Sup. Conf.	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5		
alkyl phenol blocked polyisocyanate	alkyl phenol blocked polyisocyanate	Sup. Conf.	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	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									
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
ethylenediamine	107-15-3	10 ppm	not est.	not est.	y	10 ppm	not est.	not est.	not est.	not est.	y	n	y	n	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
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
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
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
ferric oxide	1309-37-1	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
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	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.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
quartz	14808-60-7	.05 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

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				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									
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	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
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
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
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
alkylated phenolic polyamine	68413-28-5	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
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
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	n	n
pseudocumene	95-63-6	25 ppm	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	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
alkyl phenol blocked polyisocyanate	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

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Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no