MATERIAL SAFETY DATA SHEET

ISOCYANATE - ACTIVATORS - HARDENERS - ADDITIVES

SECTION I:

Distributed By: Auto Value Associates, Inc.
Address: 14351 Blanco Road
San Antonio, TX 78216

REVISED 07/26/99

Emergency Phone #: Chemtrec (800) 424-9300
Product: Isocyanate Activators, Hardeners, and Additives
D.O.T. Hazard Class: Paint, Flammable Liquids UN 1263, PG II, 3

SECTION II - Hazardous Ingredients. (See Section X for specific products' codes.)

CODE NO.	HAZARDOUS INGREDIENT	EMERG. PLAN*	NOTE	CAS NO.	ACGIH TLV Ppm	OSHA PEL ppm	STEL** ppm	HMIS* NFPA H-F-R	FLASH POINT T.C.C./F	VAPOR PRESSURE mm/Hg.
1	n-BUTYL ACETATE	YES		123-86-4	150	150	200	2-3-0	81	10 @20C
2	ACETONE	YES		67-64-1	750	750	1000	1-3-0	<-1.0	182 @20C
3	TOLUENE	YES	4	108-88-3	50	100	150	2-3-0	45	47 @20C
4	ISOPROPYL ALCOHOL	YES		67-63-0	400	400	500	1-3-0	53	32 @20C
5	DIETHYLENE GLYCOL MONOBUTYL ETHER	YES		112-34-5	N/E	N/E	N/E	1-2-0	226 PMCC	.10 @25C
6	DIISOBUTYL KETONE	NO		108-83-8	25	25	N/E	2-2-0	120	1.7 @20C
7	ETHYL ACETATE 99%	YES		141-78-6	400	400	N/E	1-3-0	24	86 @20C
8	PROPYLENE GLYCOL MONO-METHYL ETHER ACETATE	NO		108-65-6	N/E	N/E	N/E	2-3-0	114 Seta closed	2.4 @20C
9	2-BUTOXYETHYL ACETATE	NO		112-07-02	N/E	N/E	N/E	2-2-0	160	0.3 @20C
10	VM&P NAPHTHA	NO		**8032-32-4**	300	300	N/E	1-3-0	18	38 @68F
11	ETHYLENE GLYCOL MONO-ETHYL ETHER ACETATE	NO		111-15-9	25	25	N/E	1-2-0	154	0.6 @20C
12	AROMATIC HYDROCARBONS	NO		64742-95-6	50	50	150	1-3-0	110	3 @20C
13	ETHYL 3-ETHOXY PROPINATE	YES		763-69-9	N/E	N/E	100	1-2-0	136	1.5 @20C
14	XYLENE	YES	3	1330-20-7	100	100	150	2-3-0	77	9.5 @20C
15	MINERAL SPIRITS	NO		8052-41-3	100	100	100	1-2-0	100	<1 @68F
16	ISOBUTYL ACETATE	NO		110-19-0	150	150	187	1-3-0	62	14.8 @20C
17	N-BUTYL ALCOHOL	YES		71-36-3	50	50	N/E	2-3-0	97	5.5 @20c
18	METHYL ETHYL KETONE	YES		78-93-3	200	200	300	3-3-0	16	85 @20C
19	METHYL AMYL KETONE	NO		110-43-0	50	100	N/E	1-2-0	102	2.1 @20C
20	DIBASIC ESTER	NO		1119-40-0	N/E	N/E	N/E	1-1-0	212	0.2 @20C
21	POLYMERIC HEXAMETHYLENE DIISOCYANATE	NO	1	822-06-0	0.05	0.02	N/E	3-0-0	N/E	N/E
22	POLYMERIC ISOPHRONE DIISOCYANATE	NO	2	4098-71-9	N/E	N/E	N/E	2-1-0	N/E	N/E
23	FILM FORMERS, RESINS, AND ADDITIVES	NO								
24	HEXYL ACETATE	NO		88230-35-7	N/E	N/E	N/E	2-2-0	135	1.4 @68F
25	HEPTYL ACETATE	NO		90438-79-2	N/E	N/E	N/E	1-2-0	151	1 @68F
26	METHYL ISOBUTYL KETONE	YES		108-10-1	50	50	75	2-3-0	60	16 @20C
27	DIACETONE ALCOHOL	NO		123-42-2	50	50	N/E	2-3-0	133	<1.0 @20C
28	PHOSPHORIC ACID	YES		7664-38	TWA=1.0 mg/m3	TWA=1.0 mg/m3	3 mg/m3	3-0-0	N/A	6 @104 F
29	ETHYL BENZENE	YES	3	100-41-4	100	100	150	2-3-0	77	7.10 @ 68 F

31	TRIMER OF HEAMETHYLENE DIISOCYANATE	YES	1	3779-63-3	25	25	N/E	2-2-1	117	N/E
32	POLYMERIC HEXAMETHYLENE DIISOCYANATE	NO		28182-81-2	N/E	N/E	N/E	2-1-1	117	N/E

*** Subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.**
**** Short Term Exposure Limit**

Note 1 - Free Hexamethylene Diisocyanate monomer (HDI) is less than 0.7% by weight of total HDI
Note 2 - Free Isophrone Diisocyanate monomer (IPDI) is less than 0.7% by weight of total IPDI
Note 3 - Xylene contains 18-20% Ethyl Benzene (CAS#100-41-4) having PEL of 100 ppm, TLV of 100 ppm & STEL of 125 ppm.
Note 4 - Toluene is known to the state of California to cause birth defects or other reproductive harm.
N/E - Not established as reported by manufacturer.

SECTION III - PHYSICAL DATA

Evaporation Rate: Slower than ether
Solubility in water: Miscible
Boiling range: 129-426 F
Gallon weight (# per gal.): 6.70-22.00#

Vapor Density: Heavier than air
Volume % volatile: 19.4 - 80.9%
Weight % volatile: 15.3 - 76.0%
V.O.C. (# per gal.): 0.0-7.5

SECTION IV - FIRE & EXPLOSION DATA

Flash point (Closed cup): -4 to 160 degrees F.
Approximate flammable limits: 0.9% - 14%.
Extinguishing media: Foam, carbon dioxide, and dry chemical.
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.
Unusual fire & explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

SECTION V - HEALTH HAZARD DATA

GENERAL EFFECTS
Ingestion: Gastro-intestinal distress. In the unlikely event of ingestion, call a physician immediately and have the names of the ingredients available.
Inhalation: May cause nose and throat irritation. Repeated and prolonged overexposure to solvents may lead to permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness, and loss of coordination are signs that solvent levels are too high. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include and asthma-like reaction with shortness of breath, wheezing or coughing which may be permanent. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function which may be permanent. Individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to the vapors or spray mist of this product. If affected by inhalation of vapor or spray mist, remove to fresh air. If breathing difficulty persists, or occurs later, consult a physician.
Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.
SPECIFIC EFFECTS
Butyl acetate: Recurrent overexposure may result in liver and kidney injury. Tests for embryotoxic activity in animals has been inconclusive. ***Toluene:*** has bee found by the state of California to cause birth defects and other reproductive harm. ***Diethylene Glycol- Monobutyl Ether:*** Contact may cause skin irritation with discomfort or rash. Can be absorbed through the skin in harmful amounts. Recurrent overexposure may result in liver and kidney injury. High doses in laboratory animals have shown n on specific effects such as irritation, weight loss, moderate blood changes. Tests for mutagenic activity in bacterial or mammalian cell cultures have been inconclusive. ***Ethyl acetate:*** Prolonged and repeated high exposures of laboratory animals resulted in secondary anemia with an increase in white blood cells; fatty degeneration, cloudy swelling, and an excess of blood in various organs. ***Aromatic hydrocarbon:*** Recurrent overexposure may result in liver and kidney injury. Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother. ***Aliphatic Polyisocyanate or Polymeric Isophorone Diisocyanate or Polyisocyanate:*** *Repeated* exposure may cause allergic skin rash, itching, and swelling. Repeated overexposure to isocyanates may cause lung injury, including a decrease in lung function, which may be permanent. Over exposure may cause asthma-like reactions with shortness of breath, wheezing, and cough which may be permanent or permanent lung sensitization. This effect may be delayed for several hours after exposure. Individuals with pre-existing lung disease, asthma, or breathing difficulties may have increased susceptibility to the toxicity of excessive exposures. ***1,6 Hexamethylene Diisocyanate:*** May cause temporary upper respiratory and/or lung irritation with cough, difficult breathing, or shortness of breath. Over exposure may cause asthma-like reactions with shortness of breath, wheezing, cough, or permanent lung sensitization. This effect may be delayed for several hours after exposure. Prolonged skin contact may cause chemical burns. Liquid splashes in the eye may result in chemical burns. Individuals with pre-existing lung disease, asthma, or breathing difficulties may have increased susceptibility to the toxicity of excessive exposures. ***Ethylene Glycol Monobutyl Ether Acetate:*** Can be absorbed through the skin in harmful amounts. May destroy red blood cells. May cause abnormal kidney function.

SECTION VI - REACTIVITY DATA

Stability: Stable
Incompatibility (materials to avoid): None, reasonably foreseeable
Hazardous decomposition products: CO, CO2, and smoke
Hazardous polymerization: Will not occur

SECTION VII - SPILL or LEAK PROCEDURES

respirator (NIOSH/MSHA TC-19C), eye protection, gloves, and protective clothing. Remove sources of ignition. Absorb with inert material. Ventilate area. Pour liquid decontaminate solution over the spill and allow to sit 10 minutes, minimum.
Typical decontamination solutions are: 20% surfactant (Tergitol TMN 10), 80% Water OR 0-10% Ammonia, 2-5% Detergent, Balance Water
Waste disposal method: DO NOT allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state, and local requirements. DC NOT incinerate in closed containers.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory: DO NOT breathe vapors or mists. Wear a positive pressure supplied air respirator (NIOSH/MSHA TC-19C) while mixing activator with any paint or clear enamel, during application and until all vapors and spray mists are exhausted. Individuals with a history or lung or breathing problems or prior reaction to isocyanate should not use or be exposed to this product. DO NOT permit anyone without protection in the painting area. Follow the respirator manufacturer's directions for respirator use.
Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.
Protective clothing: Neoprene gloves and coveralls are recommended.
Eye protection: Desirable in all industrial situations. Include splash guards or side shields.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks, and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120 degrees F.
Other precautions: DO NOT sand, flame cut, braze, or weld dry coating without a NIOSH/MSHA approved respirator or appropriate ventilation.

SECTION X - PRODUCT CODES AND INFORMATION

PRODUCT NUMBER	COMPOSITION: % BY WEIGHT (HAZARDOUS INGREDIENTS)	EMERG. PLAN.*	FLASH POINT	OSHA FLAM.	NFPA~ H F R CLASS	VOC LBS/GL	BOILING POINT
8108, 8105	1) 5%-15%; 14) 10%; 29) 2%; 21) <1%	YES	59 TCC/F	IB	2-3-0	2.19	248-281 F
8111, 8112	3) 12%; 4) 22%; 8) 5-15%; 14) 6%; 17) 3%; 18) 15%; 19) 0-10%	YES	23 TCC/F	IB	2-3-0	6.51	174- 300 F
8122, 8121	1) 13%; 3) 6%; 4) 11%; 8) 5-15%; 14) 2%; 18) 8%; 19) 0-10%; 20) 2%	YES	23 TCC/F	IB	2-3-0	4.42	174- 309 F
8132	1) 0-10%; 3) 24%; 12) 0-10%; 14) 24%; 22) 25-30%; 24) 0-10%	YES	45 TCC/F	IB	2-3-0	5.68	230-327 F
8142, 8141	1) 5-15%; 3) 34%; 8) 20-30% 14) 3%; 21) 20-25%	YES	45 TCC/F	IB	2-3-0	6.09	230- 284 F
8143	1) 5-15% 3) 30% 14) 10% 8) 15-25% 21) 45-50% 29) 2% 31) <1%	YES	45 TCC/F	IB	2-3-0	6.08	230-284 F
8145, 8146	32) 45-50% 3) 30% 8) 15-25% 11) 5-15% 14) 10% 36) 2% 21) 4%	YES	45 TCC/F	IB	2-3-0	6.09	230-284
8166, 8167	4) 0-10%; 18) 82%; 27) 0-10%; 28) 0-10%	YES	23 TCC/F	IB	2-3-0	6.09	174-317 F
8162, 8161	4) 88%; 17) 10%; 27) 0-10%	YES	56 TCC/F	IB	2-3-0	6.56	172- 317 F
8173, 8172	1) 0-10%; 14) 39%; 21) 35-40%; 26) 10%	YES	45 TCC/F	IB	1-3-0	5.32	243- 281 F
8180	1) 40-50%; 21) 40-50%	YES	76 TCC/F	IB	2-3-1	4.12	248 F
8183V, 8184V, 8185V, 8186V	1) 10-20% 12) 0-10% 21) <1% 22) <1%	NO	76 TCC/F	IB	2-3-0	2.37	248-311 F
8188, 8187	1) 25-35%; 3) 14%; 12) 0-10%; 22) 35-40%	YES	20 TCC/F	IB	1-3-0	4.81	230-311 F
8194, 8192	31) 50%-55%; 31) 25%-35%; 1) 20%-30%; 7) 5%-15%; 22) <1%; 21) <1%	YES	24 TCC/F	IB	2-3-1	4.03	169-311 F
8195, 8193	1) 35-45%; 12) 0-10%; 21) 30-45%; 22) 5-20%	YES	76 TCC/F	IB	1-3-0	3.92	248- 311 F
8196	1) 0-10%; 12) 0-10%; 19) 25-35%; 21) 30-45%; 22) 5-20%	YES	76 TCC/F	IB	1-3-0	3.69	248-311 F

*** Products indicated are subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.**
~ NFPA ratings for individual products have not been established. The ratings given are the highest rating of any ingredient contained in that product.
NOTICE: The data in this Material Safety Data Sheet relate only to the specific material designated herein and do not relate to use in combination with another material or in any process.