

# MATERIAL SAFETY DATA SHEET

## SECTION I:

**Manufacturer's Name:** Refinish Solutions  
**Address:** 850 Ladd Road, Bldg. E  
 Walled Lake, MI 48390-3020



**Product:** Isocyanate Activators, Hardeners and Additives  
**Emergency Phone #:** Chemtrec (800) 424-9300, (800) 735-0303  
**D.O.T. Hazard Class** Paint, Flammable Liquids UN 1263

## ISOCYANATE ACTIVATORS HARDENERS AND ADDITIVES

### 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	NFPA H-F-R	FLASH POINT TCC/° F	VAPOR PRESSURE mm Hg.
1	n-BUTYL ACETATE	YES		123-86-4	150	150	200	2-3-0	81	10 @20° C
2	TOLUENE	YES	4	108-88-3	50	100	150	2-3-0	45	47 @20° C
3	ethyl 3-ethoxypropionate	YES		763-69-9	N/E	N/E	100	1-2-0	136	1.5 @20° C
4	XYLENES	YES	3	1330-20-7	100	100	150	2-3-0	77	9.5 @20° C
5	[N120] hexamethylene diisocyanate	NO	1	822-06-0	0.05	0.02	N/E	3-0-0	N/E	N/E
6	[N120] isophorone diisocyanate	NO	2	4098-71-9	N/E	N/E	N/E	2-1-0	N/E	N/E
7	METHYL ISOBUTYL KETONE	YES		108-10-1	50	50	75	2-3-0	60	16 @20° C
8	ETHYL BENZENE	YES		100-41-4	100	100	150	2-3-0	77	7.10@68° F
9	hexamethylene diisocyanate polymer	NO		28182-81-2	N/E	N/E	N/E	2-2-1	N/E	N/E
10	isocyanate polymer	NO		53880-05-0	N/E	N/E	N/E	2-1-1	N/E	N/E
11	pseudocumene	YES		95-63-6	25	25	N/E	0-2-0	118.4	1.58 @ 68° F

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12	FORMALDEHYDE	YES		50-00-0	0.3 CEILING	0.75	2.00	2*-2-0	N/E	N/E
13	n-AMYL ACETATE	NO		628-63-7	50	100	100	2-3-0	77	4.88 @ 77° F
14	o-xylene	YES		95-47-6	100	100	150	2-3-0	80	5.20 @ 68° F
15	m-xylene	YES		108-38-3	100	100	150	2-3-0	80	8.3 @ 68° F
16	PROPYL BENZENE	NO		103-65-1	N/E	N/E	N/E	0-2-0	N/E	N/E
17	p-xylene	YES		106-42-3	100	100	150	2-3-1	80	8.00 @ 68° F
18	naphthalene	YES		91-20-3	N/E	N/E	N/E	0-2-0	N/E	N/E
19	METHYL ACETATE	NO		79-20-9	200	200	250	1-3-0	9	171.3 @ 68° F
20	hexamethylene diisocyanate	NO		3779-63-3	N/E	N/E	N/E	2-1-1	300° F ASTM D93	N/E
21	p-chloro-a,a,a-trifluorotoluene	NO		98-56-6	2.5 mg/m <sup>3</sup> TWA as FLOURIDES	2.5 mg/m <sup>3</sup> TWA as FLOURIDES	N/E	1*-2-1	116.6	N/E
22	ethyl acetate	NO		141-78-6	400	400	N/E	1-3-0	24	86
23	isobutyl isobutyrate	NO		97-85-8	N/E	N/E	N/E	1-2-0	104	0.11812
24	acetic acid, 2-ethylhexyl acetate	NO		103-09-3	N/E	N/E	N/E	2-2-0	159.8	0.4
25	1-methoxy-2propanol acetate	NO		108-65-6	N/E	N/E	N/E	1-2-0	107.6	3.58
26	NJTSR# 05995500-(MT120)	NO		TRADE SECRET	N/E	N/E	N/E	2-1-0	249.98 PMCC	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.

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## SECTION III - PHYSICAL DATA

**Evaporation Rate:** Slower than ether  
**Solubility in water:** Miscible  
**Boiling range:** 132-390.2° F  
**Gallon weight (lbs. per gal.):** 7.84 – 9.22

**Vapor Density:** Heavier than air  
**Volume % volatile:** 40.12 – 79.31%  
**Weight % volatile:** 33.00 – 74.21%  
**V.O.C. (lbs. per gal.):** 0.48 – 5.95

## SECTION IV - FIRE & EXPLOSION DATA

**Flash point (Closed cup):** 9 - 78° F.

**Approximate flammable limits:** 0.8% - 16.0%.

**Extinguishing media:** Foam, carbon dioxide, 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 have been inconclusive. **Toluene:** Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heartbeats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. Toluene has been found in the state of California to cause birth defects or 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 no specific effects such as irritation, weight loss, and 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.

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## SECTION VI - REACTIVITY DATA

**Stability:** Stable

**Incompatibility (materials to avoid):** None, reasonably foreseeable

**Hazardous decomposition products:** CO, CO<sub>2</sub>, and smoke

**Hazardous polymerization:** Will not occur

## SECTION VII - SPILL or LEAK PROCEDURES

**Steps to be taken in case material is released or spilled:** DO NOT breathe vapors. DO NOT get in eyes or on skin. Wear a positive pressure supplied air vapor/particulate 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. DO 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 isocyanates 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° 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 TCC/° F	OSHA FLAM CLASS	NFPA H-F-R	VOC LBS/GL	BOILING POINT °F
RSA-165	1) 11.83%; 2) 28.19%; 4) 9.4%; 5) <1%; 8) 1.66%; 9) 20-30%; 25) 15-25%; 26) 0-10%	YES	45	IB	2*-3-0	5.95	201.2 – 365
RSA-214	1) 1.04%; 5) <1%; 9) 20-30%; 10) 0-10%; 11) 0.73%; 19) 31.73%; 20) 15-25%	YES	9	IB	2*-3-0	0.49	132 – 334.4

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RSA-215	1) 1.04%; 5) <1%; 9) 20-30%; 11) 0.73%; 19) 29.68%; 20) 15-25%; 21) 0-10%	YES	9	IB	2*-3-0	0.48	132 – 334.4
RSA-216	1) 1.03%; 5) <1%; 9) 20-30%; 11) 0.72%; 19) 27.67%; 20) 15-25%; 21) 0-10%	YES	9	IB	2*-3-0	0.48	132 – 334.4
RSA-225	1) 28.86%; 2) 0-5%; 3) 0-10%; 4) 2.14%; 5) <1%; 6) 0.5644%; 7) 1.65%; 8) 0.4%; 9) 25-35%; 10) 20-30%; 11) 0.65%; 12) 0.0003%; 13) 1.35%; 14) 0.11%; 15) 0.11%; 16) 0.07%; 17) 0.03%; 18) 0-5%	YES	45	IB	2*-3-0	3.35	201.2 - 334.4
RSA-226	1) 28.84%; 2) 0-5%; 3) 0-10%; 4) 2.14%; 5) <1%; 6) 0.5651%; 7) 1.65%; 8) 0.4%; 9) 25-35%; 10) 20-30%; 11) 0.65%; 12) 0.0003%; 13) 1.35%; 14) 0.11%; 15) 0.11%; 16) 0.07%; 17) 0.03%; 18) 0-5%	YES	45	IB	2*-3-0	3.35	201.2 - 334.4
RSA-227	1) 4.27%; 2) 0-5%; 3) 0-10%; 4) 2.17%; 5) <1%; 6) 0.5717%; 7) 24.94%; 8) 0.41%; 9) 25-35%; 10) 20-30%; 11) 0.65%; 12) 0.0003%; 13) 1.37%; 14) 0.11%; 15) 0.11%; 16) 0.07%; 17) 0.03%; 18) 0-5%	YES	45	IB	2*-3-0	3.20	201.2 - 334.4
RSH-610	1) 12.45%; 2) 0-5%; 4) 1.84%; 5) <1%; 6) 0.5854%; 7) 1.42%; 8) 0.35%; 9) 20-30%; 10) 15-25%; 11) 0.595%; 12) 0.0003%; 13) 1.16%; 14) 0.09%; 15) 0.09%; 16) 0.06%; 17) 0.02%; 18) 0-5%; 22) 14.97%; 23) 0-10%; 24) 0-10%	YES	24	IB	2*-3-0	3.99	172 – 390.2
RSH-612	1) 29.07%; 2) 0-5%; 4) 1.20%; 5) <1%; 6) 0.3175%; 7) 0.73%; 8) 0.28%; 9) 10-20%; 10) 15-25%; 11) 1.7%; 12) 0.0002%; 13) 0.76%; 14) 0.27%; 15) 0.27%; 16) 0.17%; 17) 0.07%; 18) 0-5%; 25) 10-20%	YES	45	IB	2*-3-0	4.84	201.2 – 334.4
RSH-620	1) 4.3%; 2) 23.8%; 4) 20.23%; 8) 3.57%; 10) 25-35%; 11) 3.01%; 23) 0-10%; 24) 0-10%	YES	45	IB	2*-3-0	5.48	231 – 390.2
RSH-3056	1) 33%; 5) <1%; 9) 60-70%	YES	78	IB	2-3-0	2.95	201.2 - 252

\* 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.

**Revised on: September 14, 2006**