

MATERIAL SAFETY DATA SHEET (MSDS)

FLEX-PLUG (LR) LIQUID RESIN (Seal-Tite Sealant)

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Seal-Tite Sealant

STI MSDS Number 001

Flex-Plug (LR) Liquid Resin

Revision Date: November 1, 2007

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Seal-Tite International
500 Deer Cross Drive
Madisonville, LA 70447

Tradename: Flex-Plug (LR) Liquid Resin
Product Identifier: Flex-Plug LR
General Use: This product is not hazardous when mixed with hardener and cured.
Chemical Family: Aliphatic polyisocyanate adduct

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Section 2: COMPOSITION / INFORMATION ON INGREDIENTS

Component	Percent Contained	CAS Number	OSHA PEL	ACGIH TLV
Dicyclohexylmethane-4,4'-diisocyanate	10-15	5124301	0.01 ppm (C)	0.005 ppm
Related prepolymers of PICM	80-90	68310521	N/E	N/E

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limits. "N/E" indicates that no exposure limit has been established.

Section 3: HAZARD IDENTIFICATION

Appearance, form, odor: Clear liquid with faint order.

Route of Entry: Inhalation, Skin Contact, Eyes

Target Organ: Respiratory system, central nervous system, skin, eyes.

Inhalation: May cause respiratory irritation (dry throat, coughing, shortness of breath, chest tightness) or allergic reaction.

Skin Contact: Irritant. PICM can cause redness, swelling, pain; prolonged contact with PICM can cause blistering.

Eye Contact: Extremely irritating; may cause burns or permanent damage.

Ingestion: No specific data found, but may be expected to cause gastrointestinal irritation.

Overexposure: Prolonged or repeated overexposure by skin contact or inhalation can cause skin irritation and sensitization, with itching, swelling, rashes, and/or an asthma-like respiratory reaction on later exposure even to very small amounts of airborne isocyanates. May cause lung damage.

Carcinogenicity: OSHA regulated: No ACGIH: No
National Toxicology: No International Agency Research Cancer: No
Cancer-suspect constituent(s): None

Medical conditions which may be aggravated by exposure:

Asthma, bronchitis, allergies and other respiratory disorders may be aggravated by exposure to isocyanate vapors.

Other effects: None known.

SECTION 4: FIRST AID MEASURES

Inhalation: Remove patient to fresh air. Administer oxygen if breathing is difficult. Get medical attention.

Skin Contact: Immediately remove contaminated clothing and excess contaminant. Flush skin with water for 15 minutes. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

Eye Contact: Flush eye with clean water for at least 15 minutes while gently holding eyelids open. Get immediate medical attention.

Ingestion: Consult a physician immediately. DO NOT induce vomiting. If patient is conscious, give milk or water. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Note to Physician: EYES: stain for evidence of corneal injury. If corneal is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. SKIN: treat symptomatically as for contact dermatitis or thermal burns. INGESTION: treat symptomatically. Inducing vomiting is contraindicated because of irritating nature. RESPIRATORY: treat symptomatically. Remove a sensitized individual from exposure to any isocyanate.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media: CO₂, Dry Chemical, Alcohol or All Purpose Foam

Flash Point (F): > 400 **Method:** TCC
Explosive limits in air (percent): ---- **Lower:** N/D **Upper:** N/D

Firefighters should wear self-contained breathing apparatus and full protective gear (butyl rubber). Keep containers cool with water spray. Extreme heat decomposing polymerized MDI or contamination with water (which reacts with resin, releasing carbon dioxide) could burst closed containers. Personnel in vicinity and downwind should be evacuated. Oxides of carbon and nitrogen, traces of HCN and volatilized isocyanates (MDI), other unknown irritating and/or toxic gases or mists may be present.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill control: Evacuate and ventilate area. Wear full protective equipment including respiratory equipment. Dike spill to prevent entry into water system. A blanket of protein foam may be placed over spill for temporary control of isocyanate vapor.

Containment: Dike with sawdust or other absorbent.

Cleanup: Pump large quantities into closed but not sealed container. Absorb small spills with absorbent and shovel into unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution (allow to stand 48 hours uncovered to allow CO₂ to escape). Decontaminate residual area with neutralizing solution (allow to stand 15 minutes).

Special procedures: Neutralizing solution: 90% water, 3-8% concentrated ammonia, 2% detergent; mix 10 parts neutralizer to 1 part isocyanate.

SECTION 7: HANDLING AND STORAGE

Handling Precautions: Do not breathe aerosols or vapors, material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated lower concentrations. Keep hands away from eyes when handling this material. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

Storage Requirements: Store tightly closed in a cool, dry place (64-86 F). Don't let moisture contaminate this material; it reacts with water to release carbon dioxide, which could build up pressure in closed containers and lead to bursting (DO NOT reseal if moisture contamination is suspected).

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Provide enough ventilation to keep airborne isocyanate below the TLV. General mechanical ventilation is normally adequate for occasional uses in open areas; local exhaust should be provided in confined spaces.

Isocyanate exposure levels must be monitored. Medical supervision of all employees who handle or come in contact with isocyanates is recommended (i.e. FEV, FVC); once sensitized no further exposure can be permitted. Provide safety showers and eye wash stations.

Personal Protective Equipment:

Respiratory Protection

None required at normal handling temperatures with good ventilation. IN cases of poor ventilation and/or at elevated temperatures an air supplying respirator may be required.

Eye Protection

Safety glasses with side shields or splash proof goggles.

Skin Protection

Chemical resistant rubber gloves and other protective gear as required to prevent skin contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid	Physical State:	Liquid
Odor:	Faint odor	PH (5% solution):	7.0
Vapor Pressure:	<.001 at 70° F	Evaporation Rate:	N/D
Vapor Density:	N/D	Specific Gravity:	1.04
Boiling Point:	>300° F	Melting Point:	N/D
Solubility:	Nil	Heat Value:	N/D
VOC:	0	Percent Volatile:	0
Percent solids by weight: 100			

SECTION 10: STABILITY AND REACTIVITY

Stability:	This material is chemically stable. Hazardous polymerization will not occur.
Conditions to Avoid:	Excessive heat and open flames.
Materials to Avoid:	Alcohols, amines, strong bases, metal compounds and surface active materials; the resin reacts slowly with water to give off carbon dioxide
Hazardous Decomposition Products:	Oxides of carbon and nitrogen, traces of HCN and volatilized isocyanates (MDI).
Hazardous Polymerization:	Temperatures above 400°F. Moisture.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): No data available.

Acute dermal effects: LD50 (rabbit): No data available.
Moderate irritant. MDI: produced dermal sensitization (several species). PICM: applied intradermally caused weak respiratory sensitization response (guinea pig)

Acute inhalation effects: LD50 (rat): No data available.
Respiratory sensitization response in guinea pigs.

Eye irritation: Slight irritation. A maximum primary eye irritation score for a polymeric MDE of 12/0/110 (24 hr) was obtained.

Carcinogenicity, teratogenicity, and mutagenicity:
PICM: Ames test negative for mutagenicity with and without enzyme activation.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4 hr (rat)
Dicyclohexylmethane-4,4'-diisocyanate	9900 mg/kg	10,000 mg/kg	300 mg/m ³
Related prepolymers of PICM	N/D	N/D	N/D

'N/D' = not determined

SECTION 12: ECOLOGICAL INFORMATION

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

Consult local, state, and federal regulatory agencies for acceptable disposal procedures and locations. Disposal in streams and sewers may be prohibited by federal, state, and local regulations. Incineration is the preferred method.

SECTION 14: TRANSPORT INFORMATION

Regulatory Information:	DOT	Technical Name:	N/A
UN Number:	N/A	Hazard Class:	N/A
Proper Shipping Name:	Non-regulated	Emer Response Guide No.:	N/A
Packing Group:	N/A	IMDG page number:	N/A
Other Information:	NA	Schedule "B" Export Code:	3909501000

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations

TSCA All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste: NONE

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Dicyclohexylmethane-4,4'-diisocyanate	No	Yes	0.0	Not required
Related prepolymers of PICM	No	No	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard – Delayed health hazard – Reactivity hazard –

Canadian Regulations

WHMIS hazard class(es): D2A; D2B

All components of this product are on the Domestic Substances List or the Non-Domestic Substances List

SECTION 16: OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings:

HEALTH HAZARD	FIRE HAZARD	REACTIVITY HAZARD	SPECIAL HAZARDS
3*	1	1	0

DISCLAIMER: The information contained herein is based upon data available to us and reflects our best professional judgment. Since it is impossible to anticipate the conditions under which our products may be used, we cannot guarantee that the recommendations will be adequate for all individuals and situations. Each user of this product should determine the suitability of the product for his particular purpose and should comply with all environmental regulations. Our goal is to manufacture products with zero or minimum hazards. Our products are improved daily as up to date information and research is received from our suppliers to use products with little or no hazards. Please feel free to contact us for current information.