

MATERIAL SAFETY DATA SHEET (MSDS)

FLEX-PLUG (CA) CURING AGENT (Seal-Tite Sealant)

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Seal-Tite
International
Engineered Sealing Solutions

Seal-Tite Sealant

STI MSDS Number 002

Flex-Plug (CA) Curing Agent

Revision Date: January 14, 2011

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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

Trade name: Flex-Plug (CA) Curing Agent

Product Identifier: Flex-Plug CA

General Use: This product applies to the hardener component of the two-part kit. After proper mixing and curing, product is not hazardous.

Chemical Family: Polyamine solution

Contact: Vic Groomer
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Section 2: COMPOSITION / INFORMATION ON INGREDIENTS

Component	Percent Contained	CAS Number	OSHA PEL	ACGIH TLV
Diethyltoluenediamine	30-40	68479981	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: Mobile, black liquid with mild, ammonia-like odor.

Route of Entry: Inhalation, Skin Contact, Skin Absorption, Eyes

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

- Inhalation:** Not expected to be a route of exposure due to its low volatility. Vapors or mists may cause irritation of upper respiratory tract (nasal discharge, coughing). Severe overexposure may result in difficulty breathing, nausea, drowsiness, vomiting.
- Skin Contact:** Irritant. Symptoms may include pain, excess redness & swelling with chemical burn, blistering formation and possible tissue destruction. Expected to be toxic by dermal absorption.
- Eye Contact:** Irritant. Symptoms may include pain, excessive blinking, tearing, excess redness, swelling chemical burns of the eye.
- Ingestion:** Expected to be toxic. May cause burning of mouth, throat, and stomach with abdominal and chest pain, nausea, vomiting, diarrhea, thirst, weakness and collapse. Aspiration may occur during swallowing or vomiting, resulting in lung damage.
- Overexposure:** Repeated and/or prolonged contact may cause a dermatitis reaction or other allergic reaction.
- Carcinogenicity:** OSHA regulated: No ACGIH: No
National Toxicology: No International Agency Research Cancer: Yes
Cancer-suspect constituent(s): IARC: Respirable Carbon Black dusts
Other Agency: Animal test (DETD)
- Medical conditions which may be aggravated by exposure:**
Pre-existing eye and skin disorders.
- Other effects:** Overexposure to aromatic amines through inhalation, skin contact and absorption, or ingestion can cause methemoglobinemia, reduced ability of the blood to carry oxygen (signs include purplish-blue color of the skin, lips, fingernails). See Section 11.

SECTION 4: FIRST AID MEASURES

- Inhalation:** Remove patient to fresh air. Administer oxygen if breathing is difficult. Get medical attention if symptoms persist.
- Skin Contact:** Immediately remove contaminated clothing and excess contaminant. Wash affected areas with Polyethylene Glycol 400 if available. 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 20 minutes while gently holding eyelids open, lifting upper and lower lids. Get immediate medical attention.
- Ingestion:** Administer 3-4 glasses of water and induce vomiting if conscious and not convulsing. Keep head below hips to prevent aspiration. If extensive vomiting has not occurred, the substance should be removed by emesis or gastric lavage provided the victim is conscious and not convulsing. Never give anything by mouth to an unconscious person. If victim is unconscious and vomiting occurs spontaneously, keep head to the side to prevent aspiration. Get immediate medical attention.
- Note to Physician:** If cyanotic (lips and fingernails turn blue) give oxygen. Absorption of this product into the body leads to the formation of methemoglobin that in sufficient concentrations causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleaning of the entire contaminated area of the body including scalp and nails is extremely important.

SECTION 5: FIRE-FIGHTING MEASURES

General fire and explosion characteristics: Material supports combustion.

Extinguishing Media: H₂O, CO₂, Dry Chemical or All Purpose Foam

Flash Point (F):	> 275	Method:	TCC
Explosive limits in air (percent):	---	Lower:	N/D
		Upper:	N/D

Do not enter confined space without full bunker gear. Firefighters should wear self-contained breathing apparatus and protective clothing to prevent all skin and eye contact with this material. Cool fire exposed containers with water.

Sudden reaction and fire may result if product is mixed with an oxidizing agent. Personnel in vicinity and downwind should be evacuated. Water or foam may cause frothing. Containers may rupture from heat.

Acrid and toxic fumes with organic amines, ammonia, oxides of carbon and nitrogen.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill control: Avoid personal contact. Evacuate area. Eliminate ignition sources. Ventilate area.

Containment: Dike, contain and absorb with clay, sand or other suitable material.

Cleanup: For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue. Clean-up waste water should be placed in appropriate containers for proper disposal.

Special procedures: Prevent spill from entering drainage/sewer systems, waterways, and surface waters. Collect run-off water and transfer to drums or tanks for later disposal. Notify local health authorities and other appropriate agencies if such contamination occurs.

SECTION 7: HANDLING AND STORAGE

Handling Precautions: Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles. Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (See Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.

Storage Requirements: Store in a cool, dry area way from high temperatures and flames. DO NOT store in reactive metal containers. Keep away from acids, oxidizers. Keep container tightly closed when not in use. Material is hygroscopic and may absorb small amounts of atmospheric moisture.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits (or to the lowest feasible levels when limits have not been established). Although good general mechanical ventilation is usually adequate for most industrial applications, local exhaust ventilation is preferred. Local exhaust may be required for confined areas.

Personal Protective Equipment:**Respiratory Protection**

None needed in normal use with proper ventilation. In poorly ventilated areas use NIOSH approved organic vapor cartridge respirator, supplied air (positive pressure or continuous flow) respirator, or a self-contained breathing apparatus for uncured resin, or a dust/particle respirator during grinding/sanding operations for cured resin as exposure levels dictate. A supplied air respirator or a self-contained breathing apparatus is required if there is any potential for uncontrolled release or when contaminant concentrations are unknown.

Eye Protection

Splash proof goggles or face shield. Contact lenses should not be worn while working with product.

Skin Protection

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black liquid	Physical State:	Liquid
Odor:	Mild ammonia-like odor	PH (5% solution):	7-8
Vapor Pressure:	<1 at 70° F	Evaporation Rate:	<<1
Vapor Density:	>1	Specific Gravity:	1.08
Boiling Point:	>450° 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:** Extreme heat, sparks, static electricity, electric arcs, and open flame.
- Materials to Avoid:** Strong acids and oxidizers (e.g. chlorine, oxygen, permanganates, perchlorates, percarbonates, peroxides, chromates, hypochlorites, nitric acid, sulfuric acid).
- Hazardous Decomposition Products:** Oxides of carbon and nitrogen; oxides of amines and traces of hydrogen cyanide. Aldehydes & nitro compounds from incomplete combustion.
- Hazardous Polymerization:** Heat is generated when resin is mixed with curing agents; run-a-way cure reactions may char and decompose the resin, generating unidentified fumes and vapors which may be toxic.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): >500mg/kg

Acute dermal effects: LD50 (rabbit): >1000 mg/kg

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

DETDA: Exposure of rats to aerosols for 1 hr at 2.45 mg/L did not produce mortality. Carbon black (1 hr, rat) LC50=27,000 mg/m³.

Eye irritation: DETDA: Moderate to severe irritation to rabbit's eyes.

Subchronic effects: DETDA: Sensitization to has been reported. A subchronic 21-day toxicity study was conducted on rabbits. Repeated dermal applications at 1, 10 and 100 mg/kg for 3 weeks (5 days/week) resulted in mild to moderate local irritation at the 10 and 100 mg/kg doses.

Carcinogenicity, teratogenicity, and mutagenicity:

DETDA was positive in in vitro mutagenic tests as evidenced by an increase in the number of tumors in the liver and thyroid of male rats and in the liver and possibly mammary glands of female rats. Carbon black has been shown to have in vivo mutagenic effects on a rat lung cells.

Other chronic effects: A two-year feeding study in rats with DETDA caused effects in the pancreas, liver, thyroid and eyes.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4 hr (rat)
Diethyltoluenediamine	>500 mg/kg	>700 mg/kg	>0.6 mg/L

'N/D' = not determined

SECTION 12: ECOLOGICAL INFORMATION

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

This product is not a hazardous waste by RCRA criteria (40CFR261). 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. Empty containers retain product residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition.

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
Diethyltoluenediamine	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 –

Canadian Regulations

WHMIS hazard class(es): D2B; D2A

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.