Chemical Vulcanizing Solution (Flammable)
#130

Material Safety Data Sheet

For Emergency Call:
CHEMTREC (800) 424-9300 24 Hour Assistance
(United States only)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chemical Vulcanizing Solution (Flammable)

CAS Number: (12-285, 12-286, 12-287TF, 12-287, CQ40326, 12-288) Mixture

Chemical Name: Natural Rubber Chemical Vulcanizing Adhesive

Company Identification

Manufacturer's Name: Midwest Rubber Mfg., Inc..
Address: 250 Industrial Circle Stoughton, WI 53589
Telephone – General Information: (608) 873-7788

2. HAZARDS IDENTIFICATION

Emergency Overview

Extremely flammable liquid. Skin irritant. A component may cause allergic skin reaction. A component is an eye irritant. A component is a probable cancer hazard. Overexposure may cause damage to the liver, lungs and kidneys. Keep away from heat, sparks, flames, static electricity or other sources of ignition. Use ventilation adequate to keep exposures below recommended limits. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wash thoroughly after handling.

Blue or amber, viscous liquid, typical hydrocarbon odor

Potential Health Effects:

Eyes: A component is an eye irritant. Contact may cause stinging, watering, redness, swelling and eye damage.

Skin: Skin irritant. Contact may cause redness, itching, burning and skin damage. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin, leading to dermatitis (inflammation). Repeated contact with a component may cause an allergic skin reaction. No LD50 toxicity data available on skin absorption. Studies by other exposure routes suggest a low degree of hazard by skin absorption.

Inhalation (Breathing): Low to moderate degree of toxicity by inhalation.

Ingestion (Swallowing): Low degree of toxicity by ingestion. ASPIRATION HAZARD – This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage. A component may cause alcohol intolerance (Antabuse Effect) if swallowed.

Signs and Symptoms: Effects of overexposure may include nausea, vomiting, irritation of the respiratory and digestive tracts, transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue).

Cancer: A component is a probable cancer hazard (see Section 11).

Target Organs: Potential hazard to the nervous system, hearing, liver, lungs and kidneys (see Section 11).

Developmental: A component is a potential developmental toxicant.

Other Comments: A component may react with nitrosating agents during rubber vulcanization to form nitrosamines. Some nitrosamines are suspect human carcinogens.

Medical Conditions Aggravated by Exposure: Conditions aggravated by exposure may include skin, respiratory (asthma-like), nervous system, kidney and liver disorders.

Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect (see Section 4 – Note to Physicians).

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Typical Weight Percentage	CAS Number
Heptane	85%	142-88-5
Trichloroethylene	9%	79-01-6
Zinc Dibutyldithiocarbamate	1.0-1.4%	136-23-2

Remainder of components are either non-hazardous or below regulatory requirements.

4. FIRST AID

Eyes: Immediately move victim away from exposure and into fresh air. If irritation or redness develops, flush eyes with clean water and seek immediate medical attention. For direct contact, immediately hold eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek immediate medical attention.

Skin: Remove contaminated shoes and clothing and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops, seek medical attention.

Inhalation: If respiratory symptoms develop or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

Note to Physicians: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

5. FIRE FIGHTING MEASURES

Flash Point (test method): 7°F (SFCC)

Flammable Limits: LEL: 1.2% UEL: 7%

Autoignition Temperature: No data

Extinguishing Media: Dry chemical, carbon dioxide or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

NFPA Fire Rating:	Health Hazard	2
	Flammability	3
	Reactivity	0

Key: Least = 0, Slight = 1, Moderate = 2, High = 3, Extreme = 4

Special Firefighting Procedures: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling pruposes.

Unusual Fire and Explosive Hazards: This material is extremely flammable and can be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Vapors are heavier than area and can accumulate in low areas. Contact with aluminum parts in a pressurizable fluid system may cause violent reactions.

6. ACCIDENTAL RELEASE MEASURES

Extremely flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons down wind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material. Notify appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended.

7. HANDLING AND STORAGE

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by low or agitation. Can be ignited by static discharge. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8). Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practice.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on in tanks which contain or have contained this material, refer to OSHA Regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Aluminum equipment should not be used for storage and/or transfer of chlorinates. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: If current ventilation practices are not adequate to maintain airborne dust concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required.

Specific Personal Protective Equipment

Eyes: The use of a face shield and chemical goggles to safeguard against potential eye contact, irritation or injury is recommended.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation, absorption and skin damage (see glove manufacturer literature for information on permeability). Depending on conditions of use, apron and/or arm covers may be necessary.

Respiratory: A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits (see below). Protection provided by air-purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Other: Eye wash and quick-drench shower facilities should be available in the work area.
Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn.

Exposure Guidelines

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA CEIL	OSHA PEAK
Heptane	400 ppm	500 ppm	500 ppm	None	None
Trichloroethylene	10 ppm	25 ppm	100 ppm	200 ppm	300 ppm (5 min in any 2 hrs)
Zinc Dibutyldithiocarbamate	3.5 mg/m^3	None	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Blue or amber, viscous liquid

Odor: Typical hydrocarbon

Odor threshold level: 9.77 ppm (heptane); 1.36 ppm (trichloroethylene)

Physical state: Liquid

pH: Not applicable

Vapor pressure (mmHg and temp): 152

Vapor density (air = 1): 3 (estimate)

Boiling point (at 1 atm): 120°F - 200°F

Melting point: Not applicable

Solubility in water: Negligible

Specific gravity (H_20 = 1): <1

Evaporation rate (butyl acetate = 1): 4.4 (estimate)

10. STABILITY AND REACTIVITY

Stability (thermal, light, etc.): Stable under normal conditions of storage and handling.

Conditions to Avoid: Avoid all possible sources of ignition (see Sections 5 and 7). Contact with aluminum parts in a pressurizable fluid system may cause violent reactions.

Incompatibility (materials to avoid): Avoid contact with strong acids, alkalies and oxidizers such as liquid chlorine and oxygen.

Hazardous Decomposition Products: Thermal decomposition may release carbon monoxide, carbon dioxide, hydrogen chloride, traces of phosgene and unidentifiable organic materials..

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Heptane CAS# 142-88-5

Target Organ(s): Heptane has demonstrated liver, lung and kidney effects in laboratory animals.

Trichloroethylene CAS# 79-01-6

Carcinogenicity: There is limited evidence in humans for the carcinogenicity of trichloroethylene. There is sufficient evidence in experimental animals for the carcinogenicity of trichloroethylene. Overall evaluation: Trichloroethylene is probably carcinogenic to humans (Group 2A).

Target Organ(s): Trichloroethylene has demonstrated hearing, nervous system, liver and kidney effects in laboratory animals.

Developmental Toxicity: Trichloroethylene has demonstrated developmental effects.

12. ECOLOGICAL INFORMATION

Not evaluated.

13. DISPOSAL CONSIDERATIONS

All disposal of this material must be done in accordance with local, state and Federal regulations. Waste characterization and disposal compliance are the responsibility of the waste generator.

14. TRANSPORT INFORMATION

DOT Proper Shipping Name: Adhesive, containing a flammable liquid
DOT Identification Number: UN1133
DOT Hazard Class: 3
DOT Packing Group: II

15. REGULATORY INFORMATION

OSHA (Occupational Safety and Health Administration): This material is considered to be hazardous as defined by the OSHA Hazard Communication Standard.

Component	TSCA Inventory	DSL	SARA 313	SARA 302	CERCLA RQ	CA Prop 65
Heptane	X	X	---	---	---	---
Trichloroethylene	X	X	X	---	100	X
Zinc Dibutyldithiocarbamate	X	X	X	---	---	---

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material / product contains chemicals (as listed above) known to the State of California to cause cancer and/or reproductive toxicity.

Sections 311/312: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of SARA Title III and is considered, under applicable definitions, to meet the following categories:

Acute: Yes Chronic: Yes Fire: Yes Reactivity: No

This material has not been identified as a carcinogen by NTP, IARC or OSHA.

16. Documentary Information and DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

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