

Material Safety Data Sheet

Star Technology Inc.

FORMULATING - INNOVATIVE - SOLUTIONS

Revision 1

Prepared 2012-10-16

Section 1 - Chemical Product and Company Identification

Product Name: Epoxy Hardener

Product Code: AC-22-5B

TradeName(s): AC-22-5B

Manufactured by:
Star Technology, Inc.
200 Executive Drive
Waterloo, Indiana 46793
USA

For Information call: 260-837-7833
Chemtrec: 1-800-424-9300
International Chemtrec: 703-527-3887

Section 2 - Hazard Identification

Emergency Overview

Corrosive. Reproductive toxin, severe eye irritant, severe respiratory irritant, severe skin irritant. May cause sensitization by inhalation. May cause sensitization by skin contact.

Potential Health Effects

Inhalation: Harmful if inhaled and may cause delayed lung injury. Can cause severe eye, skin and respiratory tract burns. Risk of serious damage to the lungs (by inhalation). May cause nose, throat, and lung irritation. Inhalation of aerosol may cause irritation to the upper respiratory tract. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

Eye contact: Causes eye burns. May cause blindness. Severe eye irritation.

Skin contact: Causes skin burns.

Ingestion: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

EU Risk Phrases

- R21: Harmful in contact with skin
- R22: Harmful if swallowed
- R35: Causes severe burns
- R41: Risk of serious damage to eyes

EU Safety Phrases

- S24: Avoid contact with skin
- S25: Avoid contact with eyes
- S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S36: Wear suitable protective clothing
- S37: Wear suitable gloves

GHS Ratings

- | | |
|----------------|----|
| Skin corrosive | 1B |
| Eye corrosive | 1 |

GHS Hazards

- | | |
|------|-----------------------------------------|
| H302 | Harmful if swallowed |
| H311 | Toxic in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H402 | Harmful to aquatic life |

GHS Precautions

P280	Wear protective gloves/protective clothing/eye protection/face protection
P310	Immediately call a POISON CENTER or doctor/physician
P305+351+333	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing



Hazardous chemicals may enter the body by:

Inhalation Skin Contact Eye Contact Ingestion

Chemical Exposure may effect the following organs:

Acute Toxicity: Not Established

Effects of Overexposure, Trade Secret:

Carcinogenicity: The following chemical(s) comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA or ACGIH:

Aggravated Medical Condition: Eye disease Skin disorders and Allergies. Asthma. Kidney disorders. Liver disorders.

Chronic Health Hazard : Reproductive toxin. Prolonged contact may result in chemical burns and permanent damage.

May cause allergic respiratory reaction. May cause allergic skin reaction.

Section 3 - Composition, Information on Ingredients

<u>Chemical Name / CAS No</u>	<u>OSHA Exposure Limits</u>	<u>ACGIH Exposure Limits</u>	<u>Other Exposure Limits</u>
Trade Secret 80 percent	N/E	N/E	
Epoxidized oleic acid, reaction products with tepa	N/E	N/E	

Section 4 - First Aid Measure

Inhalation: If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

Eye contact : Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour.

Skin contact : Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately.

Ingestion: Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.

Section 5 - Fire Fighting Measures

Flash Point: 141 C (286 F)

Autoignition:

LEL: N/A

UEL: N/A

Suitable extinguishing media: Alcohol-resistant foam. Carbon dioxide (CO₂), Dry chemical, Dry sand, Limestone powder.

Specific hazards: Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NO_x) is to be expected. Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

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Section 6 - Accidental Release Measures

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Personal precautions: Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.

Environmental precautions: Construct a dike to prevent spreading.

Methods for cleaning up: Approach suspected leak areas with caution. Place in appropriate chemical waste container.

Additional advice: Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

Section 7 - Handling and Storage

Handling: Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancercausing nitrosamines could be formed. Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes. Do not breathe spray. Use personal protective equipment. When using, do not eat, drink or smoke.

Storage: Do not store near acids. Keep away from Oxidizers. Keep containers tightly closed in a dry, cool and wellventilated place.

Section 8 - Exposure Control and Personal Protection

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Ventilation: Use only with adequate ventilation, i.e., ventilation in compliance with occupational exposure limites.

Administrative Controls: Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (airline or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

Contaminated Equipment: Dispose of the waste in compliance with all Federal, State, regional and local regulations.

Section 9 - Physical and Chemical Properties

AC-22-5B typically exhibits the following properties under normal circumstances:

Appearance	Viscous Liquid
Odor	Ammonia
Physical State	Liquid
Vapor Density	Heavier than air
Evaporation Rate	Slower than ether
Specific Gravity (SG)	0.980

Section 10 - Stability and Reactivity

Stability:

Stable

Materials to Avoid:

CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents. Organic acids (i.e. acetic acid, citric acid etc.), Mineral acids, Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents.

Hazardous Decomposition Products:

Nitric acid. Ammonia.

Hazardous polymerization will not occur.

Section 11 - Toxicological Information

Toxicological information: There is no toxicological data established for AC-22-5B

Section 12 - Ecological Information

Ecological information: There is no ecological data established for AC-22-5B

Section 13 - Disposal Consideration

Waste Disposal Method: Cure (harden, set, or react) the product according to product instructions. Dispose of completely cured (or polymerized) wastes in a sanitary landfill. Incinerate uncured product in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility. As the US EPA, state, regional and other regulatory agencies may have jurisdiction over the disposal of you facility's hazardous waste; it is incumbent upon the hazardous waste generator to learn of and satisfy all the requirements which affects you. Dispose of the hazardous waste at a properly licensed and permitted site or facility. Ensure conformity to all applicable waste disposal regulations. The US EPA Hazardous Waste Numbers which follows are applicable to this unadulterated product if the product enters the "waste stream". Refer to Title 40 of the Code of Federal Regulations, Part 261 (40CFR261). This part of the Code identifies solid wastes which are subject to regulations under various sections of the Code and which are subject to the notification requirements of Sections 3010 of the Resource Conservation and Recovery Act (RCRA):

Section 14 - Transportation Information

This material is classified for transportation as follows:

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>HazardClass</u>
DOT	Tetraethylenepentamine Corrosive	2320	III	8

Section 15 - Regulatory Information

Additional regulatory listings, where applicable:

Toxic Substance Control Act (TSCA): All chemicals except those listed below appear in the Toxic Substance Control Act Chemical Substance Inventory:

- None

Section 313 of Title III of the Superfund and Reauthorization Act of 1986 (SARA). The products listed below are subject to the reposting requirements of the Act, and Title 40 of the Code of Federal Regulations part 372:

Section 16 - Additional Information

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To the best of our knowledge, the information contained herein is accurate. However, Star Technology, Inc. does not assume any liability whatsoever for the accuracy of completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.