MATERIAL SAFETY DATA SHEET


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SECTION 1

PRODUCT IDENTITY: **TUFF-COTE HARDENER, Hardener Additive**

DATE PREPARED: 6/28/91

NFPA/HHMS HAZARD CODES (minimal = 0; slight = 1; moderate = 2; serious = 3; severe = 4)
Health: 3/3
Fire: 2/2
Reactivity: 0/0
Special: NA

SECTION 2: HAZARDOUS INGREDIENTS /IDENTITY INFORMATION

<table>
<thead>
<tr>
<th>HAZARDOUS COMPONENTS</th>
<th>CAS #</th>
<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
<th>% BY WT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Aziridinepropanoic acid, 2 methyl-2-ethyl-2-[[3-(2-methyl-1-aziridinyl)-1-oxopropoxy]methyl]-1,3-propadiyl ester; Polyfunctional Aziridine Diethylene glycol butyl ether*</td>
<td>64265-57-2</td>
<td>None Est.</td>
<td>None Est.</td>
<td>70 min.</td>
</tr>
<tr>
<td></td>
<td>112-34-5</td>
<td>None Est.</td>
<td>None Est.</td>
<td>23</td>
</tr>
</tbody>
</table>

*SARA Title III Section 313 reportable as Glycol Ether category

SECTION 3: PHYSICAL / CHEMICAL CHARACTERISTICS

BOILING POINT: undetermined
VAPOR PRESSURE: undetermined
VAPOR DENSITY (air = 1): heavier
SOLUBILITY IN WATER: miscible

SPECIFIC GRAVITY: 1.040
PERCENT VOLATILE: 2.2
EVAPORATION RATE: slower than ether
pH: 9.00

APPEARANCE AND ODOR: Free flowing yellow liquid; mild amine odor

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 130°F (COC)
FLAMMABLE LIMITS: (for glycol ether)
Lel 0.9%; Uel 24.6%

EXTINGUISHING MEDIA: Foam, dry chemical, carbon dioxide, water fog.
SPECIAL FIREFIGHTING PROCEDURES: Wear complete protective clothing and positive-pressure, self-contained breathing equipment. Cool fire-exposed containers with water spray to prevent pressure buildup and possible rupture.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material itself is normally stable but can become unstable at elevated temperatures and pressures, or may react with water with some release of energy, but not violently.

SECTION 5: REACTIVITY DATA

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
HAZARDOUS POLYMERIZATION: May occur if mixed with acid materials.
CONDITIONS TO AVOID: Contamination with acid materials, heat, direct sunlight, ultraviolet radiation, strong oxidizing conditions and freezing conditions.
INCOMPATIBILITY: Acid materials as hydrides, strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:

FORM: MSDS #678A

X052391
SECTION 6: HEALTH HAZARD DATA

ROUTES OF ENTRY/SIGNS AND SYMPTOMS OF EXPOSURE: ACUTE: Eyes: corrosive; severe irritation, possible eye burns. Skin: may cause irritation. Repeated or prolonged contact may cause sensitization. Glycol ether component can be absorbed through skin. Inhalation: mists generated from spray application may cause lung damage and/or allergic reaction. Ingestion: harmful if swallowed; irritation to mucous membranes of mouth and throat; abdominal discomfort and nausea.

CHRONIC EFFECTS: Repeated skin contact may result in sensitization and allergic contact dermatitis in susceptible individuals.

CARCINOGENS: None listed under OSHA, IARC or NTP. Similar aziridine compounds have been found to have carcinogenic and mutagenic effects in laboratory animals.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Existing dermatitis, respiratory ailments, allergies in sensitive individuals.

EMERGENCY AND FIRST AID PROCEDURES: Eyes: immediately flush with water for at least 15 minutes. Get immediate medical attention. Skin: wash affected areas with soap and water. Remove contaminated clothing. Inhalation: remove to fresh air. Aid breathing if needed. Get medical attention if symptoms persist or develop later. Ingestion: Get medical advice promptly.

SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL OR LEAK PROCEDURES: Ventilate area. Extinguish ignition sources. Wear appropriate protective equipment. SMALL SPILLS: Soak up and place in container for disposal. LARGE SPILLS: Dike to contain spill. Soak up with inert absorbent and place in containers for disposal. Flush remaining material with water. Use dilute aqueous ammonium thiosulfate as a neutralizer; flush again with water.

WASTE DISPOSAL METHOD: Incinerate or dispose of in approved landfill in accordance with current Federal, State and local regulations. While discarded material is not a hazardous waste under RCRA (40CFR261), untreated material should not be released to the environment.

HANDLING AND STORING: Store in tightly closed, properly vented containers in a cool, dry place. Do not puncture containers or expose product to moisture.

OTHER PRECAUTIONS: Warning: avoid contact with eyes, skin and clothing. Avoid breathing mists.

SECTION 8: CONTROL MEASURES

RESPIRATORY PROTECTION: Not normally required. During spray operations, you must wear a NIOSH approved respirator with high efficiency particulate filters for maximum protection; or air-supplied respirator.

VENTILATION: General dilution or local exhaust ventilation to remove particles during spray application and to remove decomposition products during mechanical or heat procedures on surfaces coated with this product (such as finish stripping, sanding or cutting).

GLOVES: Neoprene or other impervious material. EYE PROTECTION: Chemical safety goggles.

OTHER PROTECTIVE EQUIPMENT: Protective clothing to prevent skin contact. A readily available source of water for washing eye or contaminated skin.

WORK/HYGIENIC PRACTICES: Wash hands with soap and water after handling. Wash contaminated clothing before reuse. Discard contaminated shoes.

This information was compiled from current, reliable sources and is believed to be correct. As data, and/or regulations change, and conditions of use and handling are beyond our control, no warranty, express or implied, is made as to completeness or continuing accuracy of this information.

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