

MATERIAL SAFETY DATA SHEET

**CHOMERICS DIVISION
PARKER HANNIFIN CORPORATION
77 DRAGON COURT
WOBURN, MA 01888
TEL: 781-935-4850**

SECTION 1 PRODUCT IDENTIFICATION

Product Name: **HARDENER 29**
General Chemical Description: Epoxy Hardener

SECTION 2 COMPOSITION INFORMATION

<u>Components & CAS. No.</u>	<u>Weight %</u>	<u>Exposure Limits</u>
Propoxylated triethylene tetramine (26950-63-0)	65-75	Not Established.
Triethylene tetramine 112-24-3	<40	Not Established.
2,4,6-(Dimethylaminomethyl) phenol (90-72-2)	5-10	Not Established.
bis(dimethylaminomethyl)phenol (71074-89-0)	<2	Not Established..

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview: Amber liquid with an amine odor. May cause chemical burns to eyes, skin, and may be absorbed through skin. May cause skin and respiratory sensitization. Ingestion may be corrosive. Chronic health hazards. Refer to other sections of the MSDS for more detailed information.

Routes of Entry: Inhalation, skin and eye contact.

HMIS Rating: Health: 3 Flammability: 1 Reactivity: 0

Acute Effects

Eye: Contact may cause chemical burns which may result in permanent eye damage.

Skin: Contact may cause severe chemical burns, blistering and destruction of skin tissue. May be absorbed through the skin. Contact may cause sensitization, an allergic skin reaction, with symptoms including reddening, swelling, rash, scaling or blistering. Persons who become sensitized may exhibit these symptoms on subsequent contact with very small amounts of material or as a result of exposure to vapor.

Inhalation: Inhalation may cause chemical burns of the mucous membranes and respiratory tract. Contains materials which may cause sensitization, allergic respiratory reactions, with symptoms including chest tightness, wheezing, cough, shortness of breath or other signs of a non-specific asthmatic response. These symptoms may develop immediately or be delayed up to several hours after exposure.

Respiratory sensitization may develop as a result of a previous repeated overexposure or a single large dose. Once sensitized, certain individuals may exhibit signs of an asthmatic response even when exposures are well below TLV or PEL values.

Ingestion: Ingestion may be corrosive to mouth, throat and stomach.

Chronic Effects: Repeated overexposure to polyethylene polyamines (including diethylene triamine and triethylene tetramine) are reported to cause liver and kidney injury and fetus effects in tests on laboratory animals.

Subchronic exposure in test animals to 2,4,6-(dimethylaminomethyl) phenol has caused changes in central nervous system.

Special Condition Effects: CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may form when 2,4,6-(dimethylaminomethyl) phenol comes in contact with nitrous acid, nitrites, or atmospheres with high nitrous oxide concentrations.

Aggravated Medical Conditions: Preexisting respiratory conditions may be aggravated.

SECTION 4 FIRST AID MEASURES:

Handle in accordance with good industrial hygiene and safety practices by avoiding unnecessary exposure and by removing material from the eyes, skin and clothing.

Eye: Immediately but gently flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.

Skin: Immediately remove contaminated clothing. Immediately, continuously and gently wash skin for at least 15 minutes. Use soap and water if skin is intact; use only water if skin is not intact. Get immediate medical attention.

Inhalation: Remove to fresh air. Get immediate medical attention.

Ingestion: Get immediate medical attention. DO NOT induce vomiting. Never give anything by mouth to an unconscious, drowsy, or convulsing person.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point: Not Established. >200°F
Autoignition Temp.: Not Established.
Flammable Limits: Not Established

Extinguishing Media: Carbon dioxide, water, water foam, dry chemical.

Fire Fighting Procedures: Use self-contained breathing apparatus and protective clothing. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

Unusual Fire Hazards: Decomposition and combustion products may be toxic.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill response operations must be conducted in accordance with the provisions of 29 CFR 1910.120. Observe all recommendations identified in Sections 5 and 8.

Procedures: Limit access to spill area. Dike area to contain the release. Prevent release from entering sewers or waterways. Collect spill materials for reuse or salvage. Cover remaining spilled materials with inert material to absorb residue. Transfer liquids and absorbed materials to appropriate containers. Observe all applicable local, state and federal waste management regulations.

SECTION 7 HANDLING AND STORAGE

Handling: Do not allow contact with eyes. Do not allow skin contact. Do not allow exposure by inhalation. Wash thoroughly after handling and before eating, drinking or smoking. Use with adequate ventilation.

Storage: Store in a cool dry location with adequate ventilation. Store in tightly closed container. Keep away from open flame and heat sources. Prevent contact and storage with incompatible materials.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

The recommendations described in this section are provided as general guidance for minimizing exposure. Because usage conditions vary with customer applications, specific exposure controls should be developed by a person knowledgeable in the intended usage condition and equipment.

Ventilation: Provide local exhaust ventilation to capture vapors or mist generated by the process. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their exposure limits.

Eyes: Wear safety eye wear including safety glasses with side shields and chemical goggles.

Skin: Wear protective gloves and, if appropriate, chemical resistant clothing to prevent skin contact and possible skin absorption. Wash thoroughly after handling and before eating, drinking or smoking. Remove contaminated clothing or shoes as soon as practical and thoroughly clean before reuse.

Inhalation: Use NIOSH/MSHA approved respiratory protection if adequate exhaust ventilation is not provided or air sampling indicates exposure limits are exceeded. The type of respirator selected will depend on the condition of use. Respiratory protection programs must comply with 29 CFR 1910.134.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Amber liquid.
Specific Gravity: Not Established. Approx. 1.0
Boiling Point : Not Established.
Vapor Pressure (25°C): Not Established.
Vapor Density: Not Established.
Solubility in Water: Not miscible or difficult to mix.
Volatile Content (Wt%): Not Established.

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Will not occur.

Condition to Avoid: Avoid storage in open containers, exposure to open flame or exposure to incompatible substances.

Incompatibilities: Strong oxidizers, acids, bases. Contact with acids is accompanied by large heat release. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may form when product comes in contact with nitrous acid, nitrites, or atmospheres with high nitrous oxide concentrations.

Hazardous Decomposition: Thermal or chemical decomposition may produce carbon monoxide, carbon dioxide, aldehydes, ammonia, nitrogen oxides, nitric acid and traces of incompletely burned carbon products.

SECTION 11 TOXICOLOGY INFORMATION:

All available toxicology information has been provided in Section 3 of this document.

SECTION 12 ECOLOGICAL INFORMATION:

No data on ecological effects available.

SECTION 13 DISPOSAL INFORMATION:

Since regulations vary, consult applicable regulations or authorities before disposing of this material.

SECTION 14 TRANSPORTATION INFORMATION:

Proper Shipping Name: Amines, liquid, corrosive, n.o.s.,
(Tris-2,4,6-(dimethylaminomethyl)phenol) and (triethylenetetramine)
Class: 8
UN Number: UN2735
Packing Group: II

SECTION 15 REGULATORY AND MISCELLANEOUS INFORMATION

TSCA: All components of this product are listed on the TSCA inventory.

SARA 313 Chemicals: Not Applicable.

Date Prepared: 1-31-2006
Document Number: 29
Supersedes: 5-13-99
Prepared By: Chomerics Safety Department

Revision Information: Section 2 composition modified
Sections 3, 4 and 8 inhalation modified
Section 9 solubility in water modified
Section 14 shipping information added
Section 3, added HMIS rating

This information and recommendations herein are based upon data considered true and accurate. However, Chomerics makes no warranties, express or implied as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and material are not within the control of Chomerics, Chomerics assumes no responsibility for injury to the user or third persons. The material described herein is sold pursuant to Chomerics' Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.