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Printed 5/31/2001.

Product Name HD5028

Enthone Catalyst 28/B13

Enthone  
 Enthone Inc.  
 P.O. Box 1900  
 New Haven, CT 06508  
 (203) 934-8611  
 (203) 799-8179 Fax

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

EMERGENCY PHONE NUMBER  
 Chemtrec, U.S.A. 1-800-424-9300

PRODUCT DESCRIPTION  
 Amine Solution

GENERAL USE  
 Part B Catalyst

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

| SUBSTANCE DESCRIPTION                   | PERCENT    | CAS#     |
|---|------------|----------|
| 2,4,6-tris[(dimethylamino)methyl]phenol | 45.0- 60.0 | 90-72-2  |
| Ethylene Glycol Monobutyl Ether         | 35.0- 50.0 | 111-76-2 |

DISCLOSURE:  
 This product is hazardous under the criteria of the USA OSHA Hazard Communication Standard 29 CFR 1910.1200.  
 Any ingredient claimed as a trade secret will be disclosed in accordance with 29 CFR 1910.1200 (1).  
 See Section 8 of this MSDS for any noted exposure limits for these compounds.

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

\*\*\*\*\*  
 Warning!  
 Causes eye irritation.  
 Harmful if swallowed.  
 May be harmful if inhaled.  
 May cause stomach irritation.  
 Combustible liquid and vapor.  
 Amber liquid. Amine odor.  
 \*\*\*\*\*

EYE CONTACT  
 Severely irritating. May cause burns, redness, tearing, pain, or difficulty seeing.

SKIN CONTACT  
 Moderately irritating. Prolonged contact may cause burns. Repeated exposure may cause allergic skin reactions. Once an allergy develops, even an exposure to a very small amount can trigger an allergic reaction.

INHALATION  
 Moderately irritating to eyes, nose, throat and lungs. Repeated exposure may cause an allergic reaction of the respiratory system. Once an allergy develops, even an exposure to a very small amount can trigger an allergic reaction.

INGESTION  
 Severely irritating to the mouth, stomach, and digestive tract. May cause vomiting. May burn mouth, throat and stomach.

PRIMARY ROUTE OF EXPOSURE  
 Skin contact, skin absorption, eye, inhalation, and ingestion.

CARCINOGENICITY  
 IARC - Not Listed  
 OSHA - Not Listed  
 NTP - Not Listed

TARGET ORGANS  
 Ingredients may be toxic to the following organs:  
 Skin, eyes, lungs, and mucous membranes.

SECTION 4. FIRST AID MEASURES

EYE CONTACT  
 Flush eyes with flowing water for 10 to 15 minutes. Blink eyes frequently. Repeat flushing if burning or pain persists. Get immediate medical attention.

SKIN CONTACT  
 Rinse immediately with plenty of water. Remove contaminated clothing. If problems persist get immediate medical attention. Do not apply lotions or creams without the advice of a physician or poison center.

INHALATION  
 Remove victim to fresh air. If breathing is difficult get immediate medical attention. If not breathing give artificial respiration and call for emergency medical assistance.

Distributed by:  
**NAZDAR**  
 8501 Hedge Lane Terrace  
 Shawnee, KS 66227  
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**INGESTION**

Do NOT induce vomiting. Rinse mouth with water and allow patient to drink as much water as desired. Contact a poison center or get prompt medical attention if symptoms of irritation persist

**SECTION 5. FIRE FIGHTING MEASURES**

**FLASH POINT**  
 155.00 F 68.33 C

**FLASH METHOD**  
 S.C.C.

**EXTINGUISHING METHOD**  
 Use carbon dioxide, foam or dry chemical.

**FIRE FIGHTING PROCEDURES**  
 Wear self-contained breathing apparatus (pressure demand MSA/NIOSH or equivalent) and full fire fighting protective gear.

**FIRE AND EXPLOSION HAZARDS**  
 Heat in excess of flashpoint, open flame or storage with incompatible materials as listed in Stability And Reactivity.

**HAZARDOUS PRODUCTS/COMBUSTION**  
 Not established.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**CLEAN-UP**  
 Remove ignition sources. Provide adequate ventilation and/or personal protective equipment (see Section 8). Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Prevent runoff to storm sewers, ditches and other pathways to soil and waterways.

**SECTION 7. HANDLING AND STORAGE**

**HANDLING**  
 Avoid breathing fumes. Do not splash or spill.

**STORAGE**  
 Do not store with incompatible materials. Store containers upright. Keep away from heat and flame.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS**  
 Use local exhaust ventilation.

**EYE PROTECTION**  
 Wear safety glasses with side shields or a face shield.

**SKIN PROTECTION**  
 Wear chemical resistant rubber gloves and apron.

**RESPIRATORY PROTECTION**  
 No respirator is required if ingredient exposure limits are not exceeded. An OSHA approved (29 CFR 1910.134 USA Dept. of Labor), air purifying, half-face respirator with the appropriate cartridge should be used if exposure limits are exceeded.

**OTHER PROTECTION**  
 A safety shower and eye wash station should be within reasonable distance of the work area.

**EXPOSURE LIMITS/REGULATORY INFORMATION**

| SUBSTANCE DESCRIPTION                   | REG. AGENCY | PEL/TL | STEL | CEIL |
|---|-------------|--------|------|------|
| 2,4,6-tris[(dimethylamino)methyl]phenol | OSHA        | N/D    | N/D  | N/D  |
|   | ACGIH       | N/D    | N/D  | N/D  |
| Ethylene Glycol Monobutyl Ether         | OSHA        | 25.0   | N/D  | N/D  |
|   | ACGIH       | 25.0   | 75.0 | N/D  |

**LEGEND:**

**EXPOSURE LIMIT DESCRIPTIONS**  
 CEIL = Ceiling Exposure Limit  
 PEL/TL = PEL/TLV  
 STEL = Short Term Exposure Limit  
 N/D = Not Determined  
**UNIT OF MEASURE**  
 PPM = Parts Per Million (Liquid)  
 MG/M3 = Milligrams Per Cubic Meter (Solid)

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE & ODOR**  
 Amber liquid with amine odor.

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SPECIFIC GRAVITY  
0.93

pH FACTOR  
N/D

BOILING POINT  
N/D

#### VOLATILE ORGANIC COMPOUNDS

Before use this product must be mixed with another Enthone product.  
To obtain VOC data on mixture call (949) 757-0111 or fax (949) 757-0248.

#### SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES  
Oxidizing agents.

DECOMPOSITION  
None

POLYMERIZATION  
None.

CONDITIONS TO AVOID  
Extreme temperatures.

STABILITY  
Stable.

#### SECTION 11. TOXICOLOGICAL INFORMATION

EYE EFFECTS  
Conjunctivial irritation and possible corneal burns due to the alkaline amines present.

DERMAL EFFECTS  
Caustic burns possible depending on contact time. Although no specific testing may have been on the amine(s) in this product all aliphatic and alicyclic amines should be considered as potential skin sensitizers.

INHALATION EFFECTS  
Although no specific testing may have been done on the amine(s) contained in this product, all aliphatic and alicyclic amines should be considered as potential pulmonary sensitizers.

Several rat studies demonstrated no effect for the glycol ether(s) contained in this product on the testes of rats and nonsignificant reversible effects in one study. Studies in pregnant rats showed contradictory embryo and fetotoxic effects at 100 - 200 ppm. All studies showed that in doses not toxic to the mother, there are no fetotoxic or teratogenic effects.

INGESTION EFFECTS  
Numbness of the nerve endings of the tongue and other parts of the mouth may make mask symptoms of a significant burn. Absorption of significant amounts may result in unconsciousness, and rupture of red blood cells. Ingestion of more than 2 ounces may be fatal.

ACUTE TOXICITY DATA  
Enthone is not aware of any toxicity data on the specific mixture of chemical components contained in this product. Data on the individual chemical components of this mixture is available in the literature or can be obtained by contacting Enthone's Health, Safety, and Environmental Department at the address and telephone number listed in Section 1.

#### SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION  
Enthone has not conducted specific studies on the ecotoxicity or environmental fate of this product. Commonly available data on certain ingredients indicate that acute or chronic effects could result from uncontrolled releases to soil, ground water, storm waters or air. Appropriate measures should be taken to prevent uncontrolled releases. Prompt containment and clean-up should be performed if releases do occur (see Section 6).

#### SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL  
Legal disposition of wastes is the responsibility of the owner/generator of the waste. Applicable Federal, state and/or local regulations must be followed during treatment, storage, or disposal of waste containing this product.

It is recommended that the following priority hierarchy be used when selecting a disposal method: 1) Reuse or reintroduction into the process. (2) Reclamation, regeneration or recycling. (3) Burning for energy recovery, or incineration. (4) Treatment.

#### SECTION 14. TRANSPORT INFORMATION

DOT/IATA PROPER SHIPPING NAME  
Corrosive liquid, basic, organic, n.o.s. (Primary Aliphatic Amine)

DOT/IATA HAZARD CLASS

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DOT/IATA UN OR NA NUMBER  
 UN3267

DOT/IATA PACKING GROUP  
 III

DOT/IATA LABEL  
 Corrosive

DOT/IATA PLACARD  
 Corrosive

**SECTION 15. REGULATORY INFORMATION**

Component 2,4,6-tris[(dimethylamino)methyl]phenol is subject to the following Environmental List\_ 311/312 SARA Phy/Hea Haz (40CFR370.40)

Component Ethylene Glycol Monobutyl Ether is subject to the following Environmental List 311/312 SARA Phy/Hea Haz (40CFR370.40)  
 313 SARA toxic chem (40CFR372.65)

**CALIFORNIA PROPOSITION 65**  
 This product contains a chemical(s) known to the State of California to cause cancer.

**SECTION 16. OTHER INFORMATION**

**HAZARDOUS MATERIALS ID. SYSTEM**

|            |   |                      |            |
|------------|---|----------------------|------------|
| HMIS       |   | <b>HAZARD RATING</b> |            |
| Health     | 3 | Least                | 0 Slight 1 |
| Fire       | 2 | Moderate             | 2 High 3   |
| Reactivity | 1 | Extreme              | 4          |

**WHMIS HAZARD CLASS**  
 B3, D2B, E

**REVISION NO.**  
 003

**REVISION DATE**  
 09/20/00

**REVISION SECTION / REASON**  
 Revise and reformat entire MSDS.

**Created by:**  
 HSE - Irvine, CA

**Approved by**  
 HSE - Irvine, CA

**Limitations and Disclaimer:**

This MSDS relates only to the specific material identified in Section 2. In compiling this MSDS, Enthone has relied in good faith on information provided to Enthone by suppliers of the components of this material, and, in some cases, provided by independent data resources. Enthone has not independently verified such information and in addition users should be aware that all materials may present unknown hazards. Use of this material in combination with other materials and/or in specific processes may render information set forth in this MSDS inaccurate or otherwise invalid.

**NO WARRANTY, EXPRESS OR IMPLIED, IS MADE REGARDING THE INFORMATION FURNISHED ON THIS MSDS.**

**KEY TO ABBREVIATIONS:**  
 EQ = Equal  
 AP = Approximately  
 N/D= Not Determined  
 HSE= Health, Safety and Environmental

LT=Less Than  
 GT=Greater Than  
 TR=Trace  
 <=Less Than