

Enthone
 Enthone Inc.
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Printed 3/23/2001.

Product Name **CATALYST 45** **CATALYST FOR 50-AND M-SERIESI**

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

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

PRODUCT DESCRIPTION
 Amine Solution

GENERAL USE
 Catalyst for 50- & M-series Inks

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Hexanoic acid, 2-ethyl-, compd. With 2,4,6-tris[(dimethylamino)methyl]phenol	65.0- 80.0	51365-70-9
Imidazolin Silane	10.0- 25.0	58068-97-6
Solvent Naptha, Petroleum	5.0- 10.0	64742-94-5
Ethylene Glycol Monobutyl Ether	3.0- 7.0	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!
 Flammable liquid and vapor.
 Harmful if swallowed.
 Causes eye and skin irritation.
 Amber liquid. Ammonia odor.

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

SKIN CONTACT
 Severely irritating. Contact may cause burns with redness and pain.

INHALATION
 Moderately irritating to eyes, nose, throat and lungs.

INGESTION
 Severely irritating to the mouth, stomach, and digestive tract. 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, nose, lungs, mouth and digestive tract.

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.

KIN CONTACT
 Inse immediately with plenty of water. Remove contaminated clothing. If problems persist get immediate medical attention. Do not apply ointions 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.

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

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prompt medical attention if symptoms of irritation persist

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT
 95.00 F

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

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	PELTL	STELCELL
Solvent Naptha, Petroleum	OSHA	N/D	N/DN/D
	ACGIH	N/D	N/DN/D
Hexanoic acid, 2-ethyl-, compd. With 2,4,6-tris[(dimethylamino)methyl]phenol	OSHA	N/D	N/DN/D
	ACGIH	N/D	N/DN/D
	OSHA	N/D	N/DN/D
Imidazolin Silane	ACGIH	N/D	N/DN/D
Ethylene Glycol Monobutyl Ether	OSHA	25.0	N/DN/D
	ACGIH	25.0	75.0N/D

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
 CELL Ceiling Exposure Limit
 PELTL PEL/TLV
 STEL Short Term Exposure Limit
 '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

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Amber liquid with ammonia odor.

SPECIFIC GRAVITY
0.96

pH FACTOR
N/D

BOILING POINT
N/D F N/D C

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
Conjunctival 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. Glycol ether can be absorbed from dermal exposure. Absorption of toxic amounts through the skin is unlikely under ordinary conditions of industrial use.

INHALATION EFFECTS
Moderately irritating to mucous membranes and upper respiratory tract. 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. The glycol ether in this product does not cause adverse effects on the male or female reproductive system.

INGESTION EFFECTS
Initial symptoms may include irritation or burns of mucous membranes of mouth, esophagus and stomach. Burns of oral cavity, esophagus and stomach may occur. The absence of oral burns does not exclude the possibility of esophageal or gastric burns. Central nervous system depression, acidosis, renal damage, hematuria and oxaluria possible following ingestion of large volumes due to ethylene glycol like compounds.

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
Flammable Liquids, Corrosive, N.O.S. (Ethanol Contains Aliphatic Amine)

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DOT/IATA HAZARD CLASS
 3

DOT/IATA UN OR NA NUMBER
 UN2924

DOT/IATA PACKING GROUP
 III

DOT/IATA LABEL
 Flammable Liquid / Corrosive

DOT/IATA PLACARD
 Flammable Liquid

SECTION 15. REGULATORY INFORMATION

Component Imidazolin Silane is subject to the following Environmental List
 311/312 SARA Phy/Hea Haz (40CFR370.40)

Component Hexanoic acid, 2-ethyl-, compd. With 2,4,6-tris[(dimethylamino)methyl]phenol 2, 4, 6, - Tris Dime is subject to the following Environmental List
 311/312 SARA Phy/Hea Haz (40CFR370.40)

Component Solvent Naptha, Petroleum is subject to the following Environmental List_
 311/312 SARA Phy/Hea Haz (40CFR370.40)
 313 SARA toxic chem (40CFR372.65)

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
 None.

SECTION 16. OTHER INFORMATION

HAZARDOUS MATERIALS ID. SYSTEM

HMIS		HAZARD RATING	
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
 1/27/1999

REVISION SECTION / REASON
 Section 8/ Engineering Controls, Eye, Skin, Respiratory Protection Changes.

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	LT=Less Than
AP=Approximately	GT=Greater Than
N/D=Not Determined	TR=Trace
HSE=Health, Safety and Environmental	<=Less Than

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Polyclad Technologies

A COORADON ELECTRONICS COMPANY