Material Safety Data Sheet

Ethylaminoethanol

Revision Date *01-Aug-2011*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name	**Ethylaminoethanol**
Synonyms	Ethanol, 2-(ethylamino)-
Use of the Substance/Preparation	Chemical intermediate
Company/Undertaking Identification	**Taminco Inc.** Two Windsor Plaza, Suite 411 7540 Windsor Drive Allentown, PA 18195 (800) 223-3258
Emergency telephone number	In case of emergency call CHEMTREC 1-800-424-9300 703-527-3887 (International Calls), 02-8014-4880 (Australia local calls)

2. HAZARDS IDENTIFICATION

Appearance

Clear, Colorless liquid, Ammoniacal odor

Emergency Overview

- DANGER!
- Combustible liquid
- Causes eye burns
- May cause blindness
- Causes skin irritation
- The substance is identified as a hazardous chemical according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Principal Routes of Exposure

- Inhalation
- Skin contact
- Eye contact

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Ethylaminoethanol	110-73-6	>99

4. FIRST AID MEASURES

Ingestion

- Never give anything by mouth to an unconscious person
- If victim is conscious
- drink 1 or 2 glasses of water
- Do not induce vomiting
- Seek immediate medical attention/advice

Skin Contact

- Wash off immediately with soap and plenty of water
- Obtain medical attention

Eye Contact

- Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes
- Immediate medical attention is required

Inhalation

- Move to fresh air
- If breathing is difficult, give oxygen
- If not breathing, give artificial respiration
- Obtain medical attention

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

- Alcohol-resistant foam
- carbon dioxide (CO2)
- water spray
- dry chemical

Specific methods

- In case of fire, stop leak if safe to do so
- Evacuate personnel to safe areas
- Keep product and empty container away from heat and sources of ignition
- Cool containers / tanks with water spray
- Do not allow run-off from fire fighting to enter drains or water courses

Special protective equipment for fire-fighters

- Firefighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent)
- Wash/Decontaminate removed clothing before reuse

Specific hazards

- Combustible liquid
- Heating or fire can release toxic gas
- Carbon oxides
- Nitrogen oxides (NOx)
- Ammonia

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

- Ventilate the area
- Evacuate personnel to safe areas
- Keep people away from and upwind of spill/leak
- Do not breathe vapors or spray mist
- Eliminate all ignition sources if safe to do so
- Avoid contact with skin, eyes and clothing

Environmental Precautions

- Should not be released into the environment
- Do not flush into surface water or sanitary sewer system
- Local authorities should be advised if significant spillages cannot be contained

Methods for Clean-up

- Prevent product from entering drains
- Take precautionary measures against static discharges
- Large spills should be collected mechanically (remove by pumping) for disposal
- Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container

7. HANDLING AND STORAGE

Storage

Technical measures/Precautions

- In accordance with local and national regulations
- Keep away from open flames, hot surfaces and sources of ignition
- Keep containers tightly closed in a dry, cool and well-ventilated place
- Protect containers from physical damage

Incompatible products

- Strong acids and oxidizing agents

Handling

Technical measures/Precautions

- In accordance with local and national regulations
- Use only in area provided with appropriate exhaust ventilation
- Ground/Bond container and receiving equipment
- Empty containers retain product residue and may be hazardous

Safe handling advice

- Avoid breathing vapors or mists
- Use only in area provided with appropriate exhaust ventilation
- In case of insufficient ventilation, wear suitable respiratory equipment
- Wear personal protective equipment
- Avoid contact with skin, eyes and clothing
- Wash thoroughly after handling

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL
Ethylaminoethanol	Not listed	None Established

Respiratory Protection

- In accordance with local and national regulations
- The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace
- In case of insufficient ventilation wear suitable respiratory equipment
- a respirator with filter for organic vapor
- In case of higher concentration
- wear a positive-pressure supplied-air respirator with full facepiece
- self-contained breathing apparatus

Engineering measures

- Local exhaust
- Use explosion-proof equipment

Personal Protective Equipment

Eye Protection

- Face-shield
- Chemical resistant goggles must be worn
- Ensure that eyewash stations and safety showers are close to the workstation location

Hand protection	• Impervious gloves • Choose body protection according to the amount and concentration of the dangerous substance at the work place
Skin Protection	• Solvent-resistant apron and boots • Wear fire/flame resistant/retardant clothing • Choose body protection according to the amount and concentration of the dangerous substance at the work place

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical State	Liquid
Color	Colorless
Odor	Ammoniacal

Important Health Safety and Environmental Information

Boiling Point/Range	160 - 170°C 320 - 338°F
Flash Point	70°C 158°F
Method	PMCC
Viscosity	12.4 mPas @ 25°C
Vapor Pressure	< 1.33 hPa @ 20 °C
Vapor Density	3 (Air =1.0)
Partition Coefficient (n-octanol/water)	log Pow -0.41
pH	No data available
Water solubility	Completely soluble
Melting Point/Range	-9°C 16°F
Density	0.91 - 0.92 g/cm3
Autoignition Temperature	No data available
Flammability Limits in Air	No data available

10. STABILITY AND REACTIVITY

Stability	• Stable under normal conditions
Conditions to Avoid	• Keep away from open flames, hot surfaces and sources of ignition • Incompatible with strong acids and oxidizing agents • Do not use sodium nitrite or other nitro sating agents in product
Hazardous Decomposition Products	• None under normal use • Heating or fire can release toxic gas • Carbon oxides • nitrogen oxides (NOx) • Carbon dioxide (CO_2) • Ammonia
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Eye Contact Vapors may cause severe irritation and conjunctivitis with possible cornea edema. May cause irreversible eye damage. Corrosive to rabbits.

Skin Contact Skin irritant. Irritating to rabbits.

Inhalation May cause irritation of respiratory tract. Burning produces irritant fumes, May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion Components of the product may affect the nervous system. Based on Animal Evidence: Causes damage to organs through prolonged or repeated exposure if swallowed: kidney, gastrointestinal tract.

Chronic Effects None known.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	IARC	ACGIH	OSHA	NTP
Ethylaminoethanol	Not Listed	Not Listed	Not Listed	Not Listed

Aggravated Medical Conditions None known.

Product Information

LD50/oral/rat = > 2700 mg/kg
LD50/dermal/rabbit = > 2000 mg/kg
LC50 Inhalation > 1.56 mg/l: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration
Eye irritation Corrosive
Skin irritation Irritating
Sensitization No information available
Mutagenic Effects No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

LC50/96h/Fathead minnows =	1480 mg/l
LC50/96h/Rainbow trout =	1500 mg/l
Toxicity to daphnia	No information available
Toxicity to algae	No information available
Toxicity to bacteria	- No information available

Mobility

No information available

Persistence and Degradability

Readily biodegradable

Bioaccumulative Potential

Does not bioaccumulate

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	Dispose of in accordance with local regulations
Contaminated Packaging	Dispose of in accordance with local regulations. Empty containers retain product residue and may be hazardous. Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

DOT	**Not regulated in Non - Bulk Packages, 49 CFR 173.50(f)(2)**
Shipping Description	NA1993, Combustible liquid, n.o.s. (Ethylaminoethanol), PGIII
Hazard Class	Combustible liquid
UN-No	NA1993
Packing Group	III
Reportable Quantity (RQ)	Not Applicable
Marine Pollutant	No.
Labelling	Not required
IMDG/IMO	Not regulated
Marine Pollutant	No
IATA	Not regulated

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists: U.S.A. (TSCA), Europe (EINECS/ELINCS/NLP), Canada (DSL/NDSL), Japan (ENCS), Australia (AICS), Philippines (PICCS), China (IECSC), Korea (KECL), New Zealand (NZIoC).

NOTE: X = Listed

Chemical Name	TSCA	EINECS	DSL	ENCS	MITI	AICS	PICCS	IECSC	KECL	NZIoC
Ethylaminoethanol	X	X	X	X		X	X	X	X	X

OSHA HAZARD CLASSIFICATION: This material is classified as hazardous under Federal OSHA regulation: Corrosive (eye), Irritant (Skin), Combustible liquid

SARA 311/312 Hazardous Categorization
Acute Health Hazard, Fire Hazard

SARA TITLE III SECTION 313 INFORMATION:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

NOTE: X = Listed

CERCLA Hazardous Substances
This product does not contain any RQs or TPQs under this regulation.

State Right-to-Know

NOTE: X = Listed

Chemical Name	PA	NJ	MA
Ethylaminoethanol 110-73-6	Not Listed	Not Listed	Not Listed

California Proposition 65 This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class B3 Combustible liquid
D2B Toxic materials

Canadian Environmental Protection Act This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

16. OTHER INFORMATION

HMIS	**Health** 3	**Flammability** 2	**Physical Hazard** 0
NFPA	**Health** 3	**Fire** 2	**Instability** 0

Legend: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Literary Reference -Taminco Proprietary Studies

Disclaimer: The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet