Material Safety Data Sheet

Amietol® M11
N-Methylaminoethanol (MMEA)

Revision Date *13-Jan-2011*

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

Product Name	**Amietol® M11** **N-Methylaminoethanol (MMEA)**
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!
- Corrosive
- Combustible liquid
- Causes skin and eye burns
- May cause blindness
- May be harmful if swallowed
- Vapors may be irritating to eyes, nose, throat, and lungs
- Avoid breathing vapors or mists
- 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

- Eye contact
- Skin contact
- Inhalation

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
N-Methylethanolamine	109-83-1	99.5

4. FIRST AID MEASURES

Ingestion

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

Skin Contact

- Immediately flush skin with running water for 30 minutes or until no traces remain. Wash with soap and water. Remove contaminated clothing immediately.
- Seek immediate medical attention/advice

Eye Contact

- Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 30 minutes.
- Seek immediate medical attention/advice

Inhalation

- Move to fresh air
- If breathing is difficult, give oxygen
- Do not give mouth-to-mouth
- If not breathing, give artificial respiration
- Seek immediate medical attention/advice

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Specific methods

- In the event of fire, cool tanks with water spray
- Do not allow run-off from fire fighting to enter drains or water courses
- In case of fire, stop leak if safe to do so
- Evacuate area and fight fire from a safe distance
- Suppress (knock down) gases/vapors/mists with a water spray jet
- Keep people away from and upwind of spill/leak

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)

Specific hazards

- Combustible material
- Keep product and empty container away from heat and sources of ignition
- In case of fire hazardous decomposition products may be produced such as
- Carbon oxides
- Nitrogen oxides (NOx)

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

- Ventilate the area
- Remove all sources of ignition
- Wear suitable protective equipment
- Avoid contact with the skin and the eyes
- Keep people away from and upwind of spill/leak
- Take precautionary measures against static discharges
- Pay attention to flashback

Environmental Precautions

- Dispose of contents/container in accordance with local regulation
- Prevent product from entering drains
- Local authorities should be advised if significant spillages cannot be contained

Methods for Clean-up

- Ventilate the area
- 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
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains
- Dispose of as special waste in compliance with local and national regulations

7. HANDLING AND STORAGE

Storage

Technical measures/Precautions

- To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded
- 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
- Ensure that eyewash stations and safety showers are close to the workstation location

Safe handling advice

- Handle in accordance with good industrial hygiene and safety practice
- Do not breathe vapors or spray mist
- Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors)
- In case of insufficient ventilation, wear suitable respiratory equipment
- Handle product only in closed system or provide appropriate exhaust ventilation at machinery
- Avoid contact with skin, eyes and clothing
- Wear personal protective equipment
- Empty containers retain product residue and may be hazardous

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL
N-Methylethanolamine	Not listed	None Established

Respiratory Protection

- Do not use in areas without adequate ventilation
- In accordance with local and national regulations
- In case of insufficient ventilation wear suitable respiratory equipment
- The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace
- a respirator with filter for organic vapor
- In case of higher concentration
- wear a positive-pressure supplied-air respirator with full facepiece

Engineering measures

- Local exhaust

Personal Protective Equipment

Eye Protection

- Face-shield
- and
- 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	Amine-like

Important Health Safety and Environmental Information

Boiling Point/Range	160°C 320°F
Flash Point	76°C 169°F
Method	PMCC
Viscosity	17.8 mPas @ 20°C
Vapor Pressure	2.01 hPa @ 30.6 °C
Vapor Density	2.6 (Air =1.0)
Partition Coefficient (n-octanol/water)	log Pow : -0.91
pH	13.6 (@100 g/l, 20°C)
Water solubility	Miscible 1000 g/l @ 20°C
Oxidizing Properties	Not applicable
Explosion Limits	

Explosive Properties	1.6 - 19.8 vol. %
Melting Point/Range	-4.5°C 24°F
Density	0.94 g/cm3 @ 20 °C
Flammability	Combustible liquid The substance or mixture is not classified as pyrophoric
Autoignition Temperature	350°C 662°F
Flammability Limits in Air	
lower flammability limit	1.6 vol. %
upper flammability limit	17.7 vol. %

10. STABILITY AND REACTIVITY

Stability
- Stable under normal conditions

Conditions to Avoid
- Keep away from open flames, hot surfaces and sources of ignition
- Per chlorates
- Peroxides
- Oxidizing agents
- Do not use sodium nitrite or other nitro sating agents in product

Hazardous Decomposition Products
- Heating or fire can release toxic gas
- nitrogen oxides (NOx)
- Carbon oxides

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Eye Contact May cause severe eye/skin irritation. Contact may cause eye burns. May cause irreversible eye damage. Corrosive to rabbits.

Skin Contact May cause severe eye/skin irritation. Corrosive to rabbits. Causes skin burns.

Inhalation May cause irritation of respiratory tract. May cause irritation of the mucous membranes.

Ingestion May be harmful if swallowed. Can burn mouth, throat, and stomach.

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
N-Methylethanolamine	Not Listed	Not Listed	Not Listed	Not Listed

Product Information

LD50/oral/rat =	1880 mg/kg
LD50/dermal/rabbit =	> 2000 mg/kg
LC50/inhalation/4h/rat =	2000 mg/m³
Eye irritation	corrosive
Skin irritation	corrosive
Sensitization	Not required
Mutagenic Effects	Did not show mutagenic effects in animal experiments
Reproductive toxicity	Caution - substance not yet fully tested Possible risk of harm to the unborn child
Carcinogenic effects	Not expected

12. ECOLOGICAL INFORMATION

Ecotoxicity

LC50/96h/Brachydanio rerio	> 100 mg/l
EC50/48h/daphnia =	33 mg/l
EC50/72h/algae =	28.1 mg/l
Toxicity to bacteria	EC50 (30 min) :30 mg/l

Mobility

Koc = < 50

Persistence and Degradability

According to the results of tests of biodegradability this product is considered as being readily biodegradable

Bioaccumulative Potential

Not expected

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	Dispose of in accordance with local regulations
Contaminated Packaging	Dispose of contents/container in accordance with local regulation. 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

Shipping Description	UN2735, Amines, liquid, corrosive, n.o.s. (N-Methylaminoethanol), 8, PG III
Hazard Class	8
UN-No	UN2735
Packing Group	III
Reportable Quantity (RQ)	None

Marine Pollutant	No
Labelling	Corrosive

IMDG/IMO

Shipping Description	UN2735, Amines, liquid, corrosive, n.o.s. (N-Methylaminoethanol), 8, PG III
Hazard Class	8
UN-No	UN2735
Packing Group	III
Marine Pollutant	No
Labelling	Corrosive

IATA

UN-No	UN2735
Shipping Description	UN2735, Amines, liquid, corrosive, n.o.s. (N-Methylaminoethanol), 8, PG III
Hazard Class	8
Packing Group	III
Labelling	Corrosive

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists: U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), 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
N-Methylethanolamine	X	203-710-0	X	2-295		X	X	X	KE-23428	X

OSHA HAZARD CLASSIFICATION: This material is classified as hazardous under Federal OSHA regulation: Corrosive, 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
N-Methylethanolamine 109-83-1	X	Not Listed	X

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

WHMIS Hazard Class B3 Combustible liquid
E Corrosive material

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 -Chemiekaarten : 25th ed. - 2010 -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