

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: ETHYLAMINE

TRADE NAMES/SYNONYMS:

MTG MSDS 209; ETHANAMINE; AMINOETHANE; 1-AMINOETHANE; MONOETHYLAMINE;
MONOETHYLAMINE, ANHYDROUS; STCC 4907835; UN 1036; MAT09290; RTECS KH2100000

CHEMICAL FAMILY: amines, aliphatic

CREATION DATE: Jan 24 1989

REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ETHYLAMINE

CAS NUMBER: 75-04-7

PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=4 REACTIVITY=0



EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: liquid

ODOR: ammonia odor

MAJOR HEALTH HAZARDS: harmful (if inhaled, on contact with the skin, or swallowed), respiratory tract burns, skin burns, eye burns, mucous membrane burns

PHYSICAL HAZARDS: Flammable gas. May cause flash fire. Flammable liquid and vapor. Vapor may cause flash fire.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation (possibly severe), difficulty breathing, lung congestion

LONG TERM EXPOSURE: same as effects reported in short term exposure

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe), frostbite

LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe), blurred vision

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: burns

LONG TERM EXPOSURE: same as effects reported in short term exposure

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention.

NOTE TO PHYSICIAN: For inhalation, consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam, alcohol-resistant foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank

truck, evacuation radius: 800 meters (1/2 mile). Water may be ineffective.

FLASH POINT: <0 F (<-18 C)
LOWER FLAMMABLE LIMIT: 3.5%
UPPER FLAMMABLE LIMIT: 14%
AUTOIGNITION: 721 F (383 C)
FLAMMABILITY CLASS (OSHA): IA

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store outside or in a detached building. Keep separated from incompatible substances. Avoid heat, flames, sparks and other sources of ignition. Store with flammable liquids. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

ETHYLAMINE:

10 ppm (18 mg/m³) OSHA TWA
5 ppm ACGIH TWA (skin)
15 ppm ACGIH STEL (skin)
10 ppm (18 mg/m³) NIOSH recommended TWA 10 hour(s)

VENTILATION: Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

250 ppm

Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with cartridge(s) providing protection against this substance.

500 ppm

Any air-purifying respirator with a full facepiece and a canister providing protection against this substance.

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

600 ppm

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern.

Any appropriate escape-type, self-contained breathing apparatus.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

COLOR: colorless

ODOR: ammonia odor

MOLECULAR WEIGHT: 45.10

MOLECULAR FORMULA: C₂-H₇-N

BOILING POINT: 63 F (17 C)

FREEZING POINT: -114 F (-81 C)

VAPOR PRESSURE: 903 mmHg @ 20 C

VAPOR DENSITY (air=1): 1.6

SPECIFIC GRAVITY (water=1): 0.7

WATER SOLUBILITY: soluble

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Soluble: alcohol, ether

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Dangerous gases may accumulate in confined spaces. Keep out of water supplies and sewers.

INCOMPATIBILITIES: acids, metals, oxidizing materials, combustible materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of carbon, nitrogen

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

ETHYLAMINE:

IRRITATION DATA: 500 mg/24 hour(s) skin-rabbit mild; 5 mg eyes-rabbit severe; 50 ppm/10 day(s)-intermittent eyes-rabbit severe; 250 ug/24 hour(s) eyes-rabbit severe

TOXICITY DATA: 5540 ppm/1 hour(s) inhalation-rat LC50; 270 mg/kg skin-rabbit LD50; 400 mg/kg oral-rat LD50

LOCAL EFFECTS:

Corrosive: inhalation, skin, eye, ingestion

ACUTE TOXICITY LEVEL:

Toxic: dermal absorption, ingestion

Moderately Toxic: inhalation

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: 10000 ug/L 24 week(s) (Mortality) Northern squawfish (*Ptychocheilus oregonensis*)

INVERTEBRATE TOXICITY: 143 mg/L 24 hour(s) EC100 (Abundance) Water flea (*Daphnia magna*)

FATE AND TRANSPORT:

BIOCONCENTRATION: 870 ug/L 24 hour(s) BCF (Residue) Diatom (*Cyclotella cryptica*) 350 ug/L

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Ethylamine

ID NUMBER: UN1036

HAZARD CLASS OR DIVISION: 2.1

LABELING REQUIREMENTS: 2.1

QUANTITY LIMITATIONS:

PASSENGER AIRCRAFT OR RAILCAR: Forbidden

CARGO AIRCRAFT ONLY: 150 kg



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Ethylamine

UN NUMBER: UN1036

CLASS: 2.1

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

ETHYLAMINE: 100 LBS RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):

ACUTE: Yes

CHRONIC: No

FIRE: Yes

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29 CFR 1910.119):

ETHYLAMINE: 7500 LBS TQ

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: ABE

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDL): Not determined.

16. OTHER INFORMATION

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