

Material Safety Data Sheet

Ethylamine, solution in water, 70 wt. %

ACC# 97344

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethylamine, solution in water, 70 wt. %**Catalog Numbers:** AC168720000, AC168720010, AC168720025, AC168720050, AC168725000**Synonyms:** Aethylamine; Aminoethane; 1-Aminoethane; Ethylamine; Etilamina; Etyloamina; Monoethylamine**Company Identification:**

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01**For emergencies in the US, call CHEMTREC:** 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
75-04-7	Ethylamine	70	200-834-7
7732-18-5	Water	30	231-791-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: -17 deg C.

Danger! Extremely flammable liquid and vapor. Vapor may cause flash fire. Harmful if swallowed. Harmful if absorbed through the skin. Causes digestive and respiratory tract irritation with possible burns. Causes eye and skin irritation and possible burns. May cause lung damage. May cause liver, kidney and heart damage. Possible sensitizer.

Target Organs: Kidneys, heart, liver, lungs, eyes.

Potential Health Effects

Eye: Low vapor concentrations may cause a temporary visual disturbance known as 'blue haze' or 'halo vision'. Causes severe eye irritation and possible burns. Contact with the eyes may cause corneal damage. May cause chemical conjunctivitis.

Skin: Harmful if absorbed through the skin. Continued contact can cause tissue necrosis. Causes skin irritation and possible burns.

Ingestion: Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion may cause severe burns of the mouth and stomach.

Inhalation: May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause severe irritation of the respiratory tract with possible burns. Vapors may cause dizziness or suffocation.

Can produce delayed pulmonary edema.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed. Chronic exposure may cause lung damage. Prolonged exposure may cause liver, kidney, and heart damage.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively. Persons with kidney disease, chronic respiratory disease, liver disease, or skin disease may be at increased risk from exposure to this substance. This product causes effects similar to those of ammonia and is highly injurious to all tissues. Effects may be delayed.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Extremely flammable liquid and vapor. Containers may explode in the heat of a fire. Will be easily ignited by heat, sparks or flame.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: -17 deg C (1.40 deg F)

Autoignition Temperature: 375 deg C (707.00 deg F)

Explosion Limits, Lower: 3.00 vol %

Upper: 12.8 vol %

NFPA Rating: (estimated) Health: 3; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition.

Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Follow all MSDS and label precautions even after container is emptied because they may contain product residues. Ground and bond containers when transferring material. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep away from acids. Do not store in aluminum containers. Store in iron, steel, or glass containers.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethylamine	5 ppm TWA; 15 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	10 ppm TWA; 18 mg/m ³ TWA 600 ppm IDLH	10 ppm TWA; 18 mg/m ³ TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: Ethylamine: 10 ppm TWA; 18 mg/m³ TWA Water: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless

Odor: ammonia-like
pH: Strongly basic
Vapor Pressure: 50 mm Hg @ 20 deg C
Vapor Density: 1.56
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 38 deg C
Freezing/Melting Point: -81.1 deg C
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density: 0.8000
Molecular Formula: C₂H₇N
Molecular Weight: 45.07

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, light, ignition sources, moisture, excess heat, electrical sparks, exposure to flame.

Incompatibilities with Other Materials: Oxidizing agents, strong acids, aluminum, copper, halogens, nitrates, nitric acid, perchlorates, permanganates, peroxides, vinyl acetate, zinc, isocyanates, tin, aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), ketones (e.g. acetone, acetophenone, MEK, MIBK), cellulose nitrate, hypochlorite, chlorine, ethylamine with nitrate was significantly mutagenic, galvanized surfaces, cleaning agents such as chromerge (sulfuric acid/dichromate) and aqua regia.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon monoxide, carbon dioxide, nitrogen gas, ammonia, nitriles, cyanic acid, isocyanates, cyanogens, nitrosamines, amides, carbamates.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 75-04-7: KH2100000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 75-04-7:

- Draize test, rabbit, eye: 5 mg Severe;
- Draize test, rabbit, eye: 50 ppm/10D (Intermittent) Severe;
- Draize test, rabbit, eye: 250 ug/24H Severe;
- Draize test, rabbit, skin: 500 mg/24H Mild;
- Inhalation, rat: LC50 = 5540 ppm/1H;
- Oral, rat: LD50 = 400 mg/kg;
- Skin, rabbit: LD50 = 390 uL/kg;

CAS# 7732-18-5:

- Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

CAS# 75-04-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.**Teratogenicity:** No information available.**Reproductive Effects:** No information available.**Mutagenicity:** No information available.**Neurotoxicity:** No information available.**Other Studies:**

Section 12 - Ecological Information
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Ecotoxicity: Water flea Daphnia: EC50 = 110 mg/L; 24 Hr; UnspecifiedFish: Goldfish: LC50 = 40-240 mg/L; 96 Hr; UnspecifiedBacteria: Phytobacterium phosphoreum: EC50 = 31200 mg/L; 30 min; Microtox testFish: Creek chub: LC50 = 40 mg/L; 24 Hr; Unspecified If released to moist soil, ethylamine may readily biodegrade (half-life <2 months) chemical hydrolysis is not expected to be a significant removal mechanism. It is not certain whether ethylamine would absorb strongly to soil; however, cationic compounds have been found strongly associated with humates and clay soil. If released to dry soil, this compound should volatilize rapidly.

Environmental: If released to water, ethylamine may biodegrade or volatilize (half-life >4 days from a shallow river). Adsorption to humate and clays in sediments may also be important. Bioaccumulation, chemical hydrolysis and reaction with photochemically generated hydroxyl radicals are not expected to be significant fate processes with water. If released to air, ethylamine should exist almost entirely in the vapor phase. Reaction with photochemically generated hydroxyl radicals is expected to be the primary removal mechanism (half-life 4 hours).

Physical: No information available.**Other:** Harmful to aquatic life in very low concentrations.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ETHYLAMINE, AQUEOUS SOLUTION	ETHYLAMINE, AQUEOUS SOLUTION
Hazard Class:	3	3(8)
UN Number:	UN2270	UN2270
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 75-04-7 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 75-04-7: Effective 6/1/87, Sunset 12/19/95

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 75-04-7: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 75-04-7: immediate, delayed, fire.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 75-04-7 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

CAS# 75-04-7 is considered highly hazardous by OSHA.

STATE

CAS# 75-04-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI F

Risk Phrases:

R 11 Highly flammable.

R 36/37 Irritating to eyes and respiratory system.

Safety Phrases:

- S 16 Keep away from sources of ignition - No smoking.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 29 Do not empty into drains.

WGK (Water Danger/Protection)

- CAS# 75-04-7: 1
- CAS# 7732-18-5: No information available.

Canada - DSL/NDSL

- CAS# 75-04-7 is listed on Canada's DSL List.
- CAS# 7732-18-5 is listed on Canada's DSL List.

Canada - WHMIS

not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

- CAS# 75-04-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 6/16/1999

Revision #5 Date: 11/20/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.