

Material Safety Data Sheet

Diethylenetriamine, 98+%

ACC# 00544

Section 1 - Chemical Product and Company Identification

MSDS Name: Diethylenetriamine, 98+%

Catalog Numbers: AC114310000, AC114310010, AC114310025, AC114310050, AC114310200, AC114312500 AC114312500, AC114315000

Synonyms: Aminothylethandiamine; 3-azapentane; bis(B-aminoethyl)amine; D.E.H.; 2,2-diaminodiethylamine; 2,2-ininobisethylamine

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
111-40-0	Diethylene triamine	98.0	203-865-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless to yellow.

Danger! Corrosive. Causes eye and skin burns. Causes digestive and respiratory tract burns. May cause allergic respiratory reaction. May cause allergic skin reaction. May be harmful if absorbed through the skin. May be harmful if swallowed.

Target Organs: None.

Potential Health Effects

Eye: Causes eye burns. May result in corneal injury. May cause irreversible eye injury.

Skin: Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: Causes gastrointestinal tract burns. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

Inhalation: May cause asthmatic attacks due to allergic sensitization of the respiratory tract. Causes respiratory tract irritation with possible burns.

Chronic: Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. Repeated exposure may cause allergic respiratory reaction (asthma).

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. 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: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. 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.

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. 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. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use water spray to cool fire-exposed containers. Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray.

Flash Point: 102 deg C (215.60 deg F)

Autoignition Temperature: 395 deg C (743.00 deg F)

Explosion Limits, Lower:2.0%

Upper: 11.6%

NFPA Rating: (estimated) Health: 3; Flammability: 0; 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. Use water spray to dilute spill to a non-flammable mixture. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Provide ventilation. Do not get water inside containers.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

Storage: Keep away from heat and flame. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Keep away from acids.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: 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
Diethylene triamine	1 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	1 ppm TWA; 4 mg/m ³ TWA	none listed

OSHA Vacated PELs: Diethylene triamine: 1 ppm TWA; 4 mg/m³ TWA

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 gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless to yellow

Odor: amine-like

pH: Strongly alkaline

Vapor Pressure: 0.37 mm Hg @ 20C

Vapor Density: 3.5

Evaporation Rate: Not available.

Viscosity: 0.0714 Ps 20 C

Boiling Point: 207 deg C

Freezing/Melting Point: -35 deg C

Decomposition Temperature: Not available.

Solubility: soluble in water.

Specific Gravity/Density: .9586

Molecular Formula: C₄H₁₃N₃

Molecular Weight: 103.1111

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources.

Incompatibilities with Other Materials: Corrosive to copper and its alloys, ignites on contact with cellulose nitrate of high surface area, forms a shock-sensitive explosive with nitromethane, and is incompatible with acids, chlorine, halogenated compounds, oxidizing agents and reactive organic compounds.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, amines.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 111-40-0: IE1225000

LD50/LC50:

CAS# 111-40-0:

Dermal, guinea pig: LD50 = 170 uL/kg;

Draize test, rabbit, skin: 500 mg;

Oral, rat: LD50 = 1080 mg/kg;

Skin, rabbit: LD50 = 1090 mg/kg;

Carcinogenicity:

CAS# 111-40-0: 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

Ecotoxicity: Water flea Daphnia: EC50 = 330 mg/L; 24 Hr.; Unspecified No data available.**Environmental:** Terrestrial: Leaches into groundwater. Aquatic: Unknown. Atmospheric: Degraded by photochemically produced hydroxyl radicals. Low potential for bioconcentration and biodegradation.**Physical:** No information found.**Other:** No information available.

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:	DIETHYLENETRIAMINE	DIETHYLENETRIAMINE
Hazard Class:	8	8
UN Number:	UN2079	UN2079
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL**TSCA**

CAS# 111-40-0 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 111-40-0: Effective 4/29/83, Sunset 4/29/93

Chemical Test Rules

CAS# 111-40-0: Testing required by manufacturers, processors

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

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 111-40-0: immediate, delayed.

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 depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances 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:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 111-40-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

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:**

C

Risk Phrases:

- R 21/22 Harmful in contact with skin and if swallowed.
- R 34 Causes burns.
- R 43 May cause sensitization by skin contact.

Safety Phrases:

- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 111-40-0: 2

Canada - DSL/NDSL

CAS# 111-40-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E.

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# 111-40-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/07/1999

Revision #4 Date: 10/03/2005

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.