

MATERIAL SAFETY DATA SHEET

1,6-Hexanediamine, 99.5+%

96174

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: 1,6-Hexanediamine, 99.5+%

Synonyms:

1,6-Diaminohexane, Hexamethylenediamine

Company Identification: Acros Organics N.V.

One Reagent Lane

Fairlawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

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**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
124-09-4	1,6-HEXANEDIAMINE	99.5+%	204-679-6

Hazard Symbols: C

Risk Phrases: 21/22 34 37

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: Not available. Flash Point: 81 deg C.

Hygroscopic.

Target Organs: Blood, liver.

Potential Health Effects

Eye:

Causes eye burns. May cause conjunctivitis. Causes redness and pain.

Skin:

Harmful if absorbed through the skin. Causes skin burns. Causes redness and pain.

Ingestion:

Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation:

Prolonged exposure may result in dizziness and general weakness. May cause severe irritation of the respiratory tract with sore throat,

coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract.

Chronic:

May cause liver and kidney damage. Repeated exposure may cause sensitization dermatitis.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

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

Skin:

Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

Get medical aid immediately. Wash mouth out with water.

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

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. Combustible solid.

Extinguishing Media:

Use dry chemical to fight fire. Use alcohol foam.

Autoignition Temperature: 310 deg C (590.00 deg F)

Flash Point: 81 deg C (177.80 deg F)

NFPA Rating: Not published.

Explosion Limits, Lower: .70 vol %

Upper: 6.30 vol %

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

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

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Use a spark-proof tool.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.

Storage:

Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Corrosives area.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
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1,6-HEXANEDIAMINE	0.5 ppm ; 2.3 mg/m3	none listed	none listed
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OSHA Vacated PELs:

1,6-HEXANEDIAMINE:

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.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Chunks
Appearance: Not available.
Odor: amine-like
pH: Not available.
Vapor Pressure: 2 mbar @ 50 deg C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: mPas 72 deg C
Boiling Point: 204 - 205 deg C @ 760.00mm Hg
Freezing/Melting Point: 39 - 40 deg C
Decomposition Temperature: Not available.
Solubility: slightly soluble
Specific Gravity/Density: Not available.
Molecular Formula: C6H16N2
Molecular Weight: 116.21

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable under normal temperatures and pressures. Absorbs carbon dioxide from the air.

Conditions to Avoid:

Incompatible materials, ignition sources, exposure to air, exposure to moist air or water.

Incompatibilities with Other Materials:

Acids - acid chlorides - acid anhydrides - carbon dioxide - strong oxidizing agents.

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:

CAS# 124-09-4: MO1180000

LD50/LC50:

CAS# 124-09-4: Oral, rat: LD50 = 750 mg/kg; Skin, rabbit: LD50 = 1110 mg/kg.

Carcinogenicity:

1,6-HEXANEDIAMINE -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

No data available.

Teratogenicity:

No data available.

Reproductive Effects:

No data available.

Neurotoxicity:

No data available.

Mutagenicity:

For more info. see Rtecs.

Other Studies:

No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:

Not available.

Environmental Fate:

Readily biodegradable.

Physical/Chemical:

Not available.

Other:

Not available.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.

RCRA D-Series Maximum Concentration of Contaminants: Not listed.

RCRA D-Series Chronic Toxicity Reference Levels: Not listed.

RCRA F-Series: Not listed.

RCRA P-Series: Not listed.

RCRA U-Series: Not listed.

Not listed as a material banned from land disposal according to RCRA.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

Shipping Name: HEXAMETHYLENEDIAMINE, SOLID

Hazard Class: 8

UN Number: UN2280

Packing Group: III

IMO

Shipping Name: HEXAMETHYLENEDIAMINE, SOLID

Hazard Class: 8

UN Number: 2280

Packing Group: III

IATA

Shipping Name: HEXAMETHYLENEDIAMINE, SOLID

Hazard Class: 8

UN Number: 2280

Packing Group: III

RID/ADR

Shipping Name: HEXAMETHYLENEDIAMINE, SOLID

Dangerous Goods Code: 8(52C)

UN Number: 2280

Canadian TDG

Shipping Name: HEXAMETHYLENEDIAMINE

Hazard Class: 8

UN Number: UN2280

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 124-09-4 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
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.

SARA

Section 302 (RQ)
None of the chemicals in this material have an RQ.
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 124-09-4: acute.
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

1,6-HEXANEDIAMINE can be found on the following state right to know lists: New Jersey, Massachusetts.

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 37 Irritating to respiratory system.

Safety Phrases:

S 22 Do not inhale dust.
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# 124-09-4: 1

Canada

CAS# 124-09-4 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of E.

CAS# 124-09-4 is listed on Canada's Ingredient Disclosure List.
Exposure Limits

CAS# 124-09-4: OEL-HUNGARY:TWA 1 mg/m3;STEL 2 mg/m3;Skin. OEL-RUSSIA
:STEL 0.1 mg/m3

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 10/16/1996 Revision #0 Date: Original.

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 way 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.
