

DATE: 08/21/96 ACCT: 888235001 PAGE: 1
INDEX: D62333351 CAT NO: AC120641000 PO NBR: UNG71589

**** MATERIAL SAFETY DATA SHEET ****

1,6-Hexanediamine, 99.5+%
96174

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

MSDS Name: 1,6-Hexanediamine, 99.5+%
Catalog Numbers:
12064-0000, 12064-0010, 12064-1000, 12064-5000, 12.064.36
Synonyms:
1,6-Diaminohexane, Hexamethylenediamine
Company Identification: Acros Organics N.V.
Janssen Pharmaceuticaalaan 3a
2440 Geel, Belgium
For information in North America, call: 800-ACROS-01
For information in Europe, call: 0032(0) 14575211
For emergencies in the US, call CHEMTREC: 800-424-9300
For emergencies outside the US, call: 0032(0) 14575299

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

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

Hazard Symbols: XN C
Risk Phrases: 21/22 34 37

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

EMERGENCY OVERVIEW

Appearance: White crystalline chunks. Flash Point: +081 C.
Hygroscopic.
Target Organs: None.

Potential Health Effects

Eye:
Contact with eyes may cause severe irritation, and possible eye burns.
Skin:
May cause severe irritation and possible burns.
Ingestion:
Not available.
Inhalation:
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:
Not available.

**** 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.
Skin:
Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion:
DO NOT induce vomiting. Allow the victim to rinse his mouth and then to drink 2-4 cupfuls of water, and seek medical advice.
Inhalation:
Remove from exposure to fresh air immediately.
Notes to Physician:
Treat symptomatically.
No specific antidote exists.

**** 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.

Extinguishing Media:

In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

Autoignition Temperature: 00285 C (545.00 F)

Flash Point: 081 C (177.80 F)

NFPA Rating: Not published.

Explosion Limits, Lower: 70

Upper: 6.30

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

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

Spills/Leaks:

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Sweep up, then place into a suitable container for disposal.

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

Handling:
Not available.
Storage:
Not available.

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

Engineering Controls:
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
1,6-HEXANEDIAMINE, 99.5+%	0.5 ppm ; 2.3 mg/m3	none listed	none listed

OSHA Vacated PELs:

1,6-HEXANEDIAMINE, 99.5+%;
No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:
Wear safety glasses and chemical goggles if splashing is possible.
Skin:
Wear appropriate protective gloves and clothing to prevent skin exposure.
Clothing:
Not available.
Respirators:
Wear a NIOSH/MSHA-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

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

Physical State: Not available.
Appearance: White crystalline chunks
Odor: None reported.
pH: 12
Vapor Pressure: 2 mbar @ 50 C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 204.0 C - 205.0 @ 760.00mm
Freezing/Melting Point: 39.00 - 40.00 C
Decomposition Temperature: Not available.
Solubility: 506 g/l (20 C)
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.

Conditions to Avoid:
Not available.

Incompatibilities with Other Materials:

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

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.

Hazardous Polymerization: Has not been reported.

**** 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, 99.5+% -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

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

Ecotoxicity:

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: 3

IATA

Shipping Name: HEXAMETHYLENEDIAMINE, SOLID
Hazard Class: 8
UN Number: 2280
Packing Group: 3

RID/ADR

Shipping Name: HEXAMETHYLENEDIAMINE, SOLID
Dangerous Goods Code: 8(52C)
UN Number: 2280

Canadian TDG

No information available.

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

A. 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 depletors.
This material does not contain any Class 2 Ozone depletors.

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.

B. State

1,6-HEXANEDIAMINE, 99.5+% 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.

C. International

Canada

CAS# 124-09-4 is listed on Canada's DSL/NDL List.
CAS# 124-09-4 is listed on Canada's Ingredient Disclosure List.
European Labeling in Accordance with EC Directives
Hazard Symbols: XN 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).

Exposure Limits:

OEL-HUNGARY:TWA 1 mg/m3;STEL 2 mg/m3;Skin. OEL-RUSSIA:STEL 0.1 mg/m3

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

Additional Information:

Added NFPA codes to Section 5. Added SARA classifications to Section 15.
Section 3, Eye Effects, added "Contact with eyes may cause severe..."
Section 3, Skin Effects, added "May cause severe irritation and pos..."
Section 3, Inhalation Effects, added "May cause severe irritation of the..."
Section 3, Inhalation Effects, added "Causes chemical burns to the respir..."
Section 4, Eye First Aid, added "Immediately flush eyes with plenty..."
Section 4, Skin First Aid, added "Flush skin with plenty of soap and..."
Section 4, Inhalation First Aid, added "Remove from exposure to fresh air i..."
Section 4, Ingestion First Aid, added "DO NOT induce vomiting. Allow the v..."
Section 5, Extinguishing Media, added "In case of fire, use water, dry che..."
Section 5, General Firefighting, added "As in any fire, wear a self-contain..."
Section 6, Spills/Leaks, added "Sweep up, then place into a suitabl..."
Section 8, Engin. Controls, added "Use adequate general or local exhau..."
Section 8, Eye Protection, added "Wear safety glasses and chemical go..."
Section 8, Skin Protection, added "Wear appropriate protective gloves..."
Section 8, Respirators, added "Wear a NIOSH/MSHA-approved (or equi..."
Section 9, Physical Properties has changed.
Section 10, Stability, added "Stable under normal temperatures an..."
Section 10, Decomposition Prod., added "nitrogen oxides..."
Section 10, Decomposition Prod., added "carbon monoxide..."
Section 10, Decomposition Prod., added "carbon dioxide..."
Section 10, Decomposition Prod., added "nitrogen..."
Section 10, Incompatibilities has changed.
Section 12, Ecology Info has changed.

MSDS Creation Date: 2/01/1996 Revision Date: 5/28/1996

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