Material Safety Data Sheet

1,6-Hexanediamine, 60 wt % aqueous soln.

MSDS# 00802

Section 1 - Chemical Product and Company Identification

MSDS Name:	1,6-Hexanediamine, 60 wt % aqueous soln.
Catalog Numbers:	AC411560000, AC411560010, AC411562500
Synonyms:	1,6-Diaminohexane; 1,6-Hexamethylenediamine.
Company Identification:	Acros Organics BVBA Janssen Pharmaceuticalaan 3a 2440 Geel, Belgium
Company Identification: (USA)	Acros Organics One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	800-ACROS-01
For information in Europe, call:	+32 14 57 52 11
Emergency Number, Europe:	+32 14 57 52 99
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300
CHEMTREC Phone Number, Europe:	703-527-3887

Section 2 - Composition, Information on Ingredients

Risk Phrases:

CAS#:	124-09-4
Chemical Name:	1,6-Hexanediamine
%:	60
EINECS#:	204-679-6
Hazard Symbols:	

Risk Phrases:

CAS#:	7732-18-5
Chemical Name:	Water
%:	40
EINECS#:	231-791-2
Hazard Symbols:	

Text for R-phrases: see Section 16

Hazard Symbols: C

Risk Phrases: 21/22 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! May be harmful if absorbed through the skin. Corrosive. Hygroscopic (absorbs moisture from the air). May be harmful if swallowed. May cause liver damage. May cause fetal effects based upon animal studies. May cause severe respiratory and digestive tract irritation with possible burns. May cause severe eye and skin irritation with possible burns. May cause allergic respiratory and skin reaction. Target Organs: Blood, liver.

Potential Health Effects

Eye:	Contact with eyes may cause severe irritation, and possible eye burns. May cause conjunctivitis and corneal inflammation.
Skin:	May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause severe irritation and possible burns.
Ingestion:	May cause liver damage. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. Exposure may cause anemia and other blood abnormalities. May be harmful if swallowed.
Inhalation:	May cause allergic respiratory reaction. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. May cause effects similar to those described for ingestion.
Chronic:	Prolonged or repeated skin contact may cause dermatitis. May cause fetal effects.

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 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:	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 not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.
Notes to Physician:	

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. 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. May polymerize explosively when involved in a fire. Contact with metals may evolve flammable hydrogen gas.
Extinguishing Media:	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. Cool containers with flooding quantities of water until well after fire is out.
Autoignition Temperature:	Not available.
Flash Point:	> 80 deg C (> 176.00 deg F)
Explosion Limits: Lower:	0.7
Explosion Limits: Upper:	6.3
NFPA Rating:	NFPA Rating:

Section 6 - Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with skin and eyes. Keep container tightly closed. Do not ingest or inhale.
Storage:	Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Do not store in metal containers.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,6-Hexanediamine	0.5 ppm	none listed	none listed
Water	none listed	none listed	none listed

OSHA Vacated PELs: 1,6-Hexanediamine: None listed Water: None listed

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

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

Color: Clear

Odor: fish-like, weak odor

pH: Not available

Vapor Pressure: 3 mm Hg @ 60 deg C

Vapor Density: 4.0 (air=1)

Evaporation Rate: Not available

Viscosity: 1.5 cP @ 50 deg C

Boiling Point: 204 deg C (399.20°F)

Freezing/Melting Point: 42 deg C (107.60°F)

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density: 0.848 (water=1)

Molecular Formula: C6H16N2

Molecular Weight: 116.1254

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Amines absorb carbon dioxide from the air to form carbamate salts.

Conditions to Avoid: High temperatures, ignition sources.

Incompatibilities with Other Materials: Metals, strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, oxides of nitrogen, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 124-09-4: MO1180000
CAS# 7732-18-5: ZC0110000

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

LD50/LC50: .
RTECS:
CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;
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Carcinogenicity: 1,6-Hexanediamine - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: No information available.

Section 13 - Disposal Considerations

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

Section 14 - Transport Information

US DOT
Shipping Name: HEXAMETHYLENEDIAMINE SOLUTION
Hazard Class: 8
UN Number: UN1783
Packing Group: II
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

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.

Safety Phrases:

S 22 Do not breathe 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

CAS# 7732-18-5: Not available

Canada

CAS# 124-09-4 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: 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.

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

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 124-09-4 is listed on the TSCA Inventory.

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

Section 16 - Other Information

MSDS Creation Date: 2/24/1998

Revision #7 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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 the company 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 the company has been advised of the possibility of such damages.
