

Safety Data Sheet

1,6-Hexanediamine

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: 1,6-Hexanediamine
Recommended Use: Science education applications
Synonyms: Hexamethylene Diamine, 1,6-Diamino-N-hexane
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Harmful if swallowed or in contact with skin. Causes severe skin burns and eye damage. May cause respiratory irritation. Harmful to aquatic life.

GHS Classification:

Skin Corrosion/Irritation Category 1B, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3, Hazardous to the aquatic environment - Acute Category 3, Acute Toxicity - Dermal Category 4, Acute Toxicity - Oral Category 4

Acute Toxicity Inhalation Gas Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
1,6-Hexanediamine	124-09-4	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.

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Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide, Nitrogen containing gases

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:	Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Avoid the generation of dusts during clean-up. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.
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Section 7 Handling and Storage

Handling:	Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Storage:	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep container tightly closed in a cool, well-ventilated place.
Storage Code:	White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
1,6-Hexanediamine	0.5 ppm TWA	N/A	N/A	N/A

Control Parameters

Engineering Measures:	No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.
Personal Protective Equipment (PPE):	Lab coat, apron, eye wash, safety shower.
Respiratory Protection:	Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. NIOSH approved air purifying respirator with dust/mist filter.
Respirator Type(s):	Wear chemical splash goggles when handling this product. Have an eye wash station available.
Eye Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Skin Protection:	
Gloves:	No information available

Section 9 Physical Data

Formula: N/A	Vapor Pressure: 2 hPa at 50 °C
Molecular Weight: 116.21	Evaporation Rate (BuAc=1): N/A
Appearance: Colorless to White Crystalline Solid	Vapor Density (Air=1): 4.01
Odor: Moderate Piperidine	Specific Gravity: 0.80 at 60 °C
Odor Threshold: 0.0041 mg/m3	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): 0.02
Melting Point: 41 °C	Autoignition Temperature: No data available
Boiling Point: 199 °C	Decomposition Temperature: No data available
Flash Point: 71 °C	Viscosity: No data available
Flammable Limits in Air: 0.7 - 6.3%	Percent Volatile by Volume: 100%

Section 10 Reactivity Data

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Reactivity:	Not generally reactive under normal conditions.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Incompatible Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	Nitrogen containing gases, Carbon dioxide, Carbon monoxide
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

Routes of Entry	Inhalation, ingestion, eye or skin contact.
Symptoms (Acute):	Hepatitis, Dermatitis
Delayed Effects:	Dermatitis

Acute Toxicity:				
Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
1,6-Hexanediamine	124-09-4	Oral LD50 Mouse 380 mg/kg	Dermal LD50 Rabbit 1110 mg/kg Dermal LD50 Rabbit 1100 MG/M3	Not determined

Carcinogenicity:				
Chemical Name	CAS Number	IARC	NTP	OSHA
1,6-Hexanediamine	124-09-4	Not listed	Not listed	Not listed

Chronic Effects:	
Mutagenicity:	No evidence of a mutagenic effect.
Teratogenicity:	No evidence of a teratogenic effect (birth defect).
Sensitization:	No evidence of a sensitization effect.
Reproductive:	Evidence of negative lactation effects.
Target Organ Effects:	
Acute:	Liver
Chronic:	No data available

Section 12 Ecological Data

Overview:	Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.
Mobility:	This material is expected to have moderate mobility in soil. It absorbs to most soil types.
Persistence:	Dissolved into water, Adsorbs to soil., Biodegradation, Photodegradation
Bioaccumulation:	Bioconcentration is not expected to occur.
Degradability:	Biodegrades at a moderate rate.
Other Adverse Effects:	No data

Chemical Name	CAS Number	Eco Toxicity
1,6-Hexanediamine	124-09-4	96 HR LC50 LEPOMIS MACROCHIRUS > 56 MG/L [STATIC] 96 HR LC50 LEUCISCUS IDUS 62 MG/L [STATIC] 96 HR LC50 PIMEPHALES PROMELAS 1825 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 23.4 MG/L 72 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 15 MG/L 96 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 14.8 MG/L

Section 13 Disposal Information

Disposal Methods:	Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s):	If discarded, this product is considered a RCRA corrosive waste, D002.

Section 14 Transport Information

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Ground - DOT Proper Shipping Name:

UN2280
Hexamethylenediamine, solid
Class 8
P.G. III

Air - IATA Proper Shipping Name:

UN2280
Hexamethylenediamine, solid
Class 8
P.G. III

Section 15

Regulatory Information

TSCA Status:

All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
1,6-Hexanediamine	124-09-4	No	No	No	No	No

Section 16

Additional Information

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Replaces: 09/03/2014

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health