

SAFETY DATA SHEET

Preparation Date: No data available

Revision Date: 06/15/2015

Revision Number: G1

Product identifier

Product code: HE170
Product Name: 1,6-HEXANEDIAMINE, REAGENT

Other means of identification

Synonyms: Hexamethylenediamine
CAS #: 124-09-4
RTECS # MO1180000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Danger

Hazard statements

Harmful if swallowed
Harmful in contact with skin
Causes severe skin burns and eye damage
May cause respiratory irritation



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Harmful to aquatic life with long lasting effects
Harmful to aquatic life

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

Specific measures (see .? on this label)
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
1,6-Hexanediamine 124-09-4	124-09-4	100	*

4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact:

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact:

Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms

Causes serious eye irritation. Eye contact may result in redness or pain. Harmful in contact with skin. Causes severe skin burns. Skin contact may result in redness, pain, inflammation, itching, scaling. May cause irritation of respiratory tract. Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Carbon dioxide (CO₂). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Carbon oxides, Nitrogen oxides

Specific hazards:

May be combustible at high temperatures
Material in powder form, capable of creating a dust explosion

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Hygroscopic.

Incompatible Materials:

No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
1,6-Hexanediamine 124-09-4	None	None	0.5 ppm TWA	1 ppm TWA

Canada

Components	Alberta	British Columbia	Ontario	Quebec
1,6-Hexanediamine 124-09-4	0.5 ppm TWA 2.4 mg/m ³ TWA	0.5 ppm TWA	0.5 ppm TWA	0.5 ppm TWAEV 2.3 mg/m ³ TWAEV

Australia and Mexico

Components	Australia	Mexico
1,6-Hexanediamine 124-09-4	None	None

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Safety glasses. Safety glasses with side-shields.

Skin and body protection: Chemical resistant apron. Gloves. Long sleeved clothing.

Respiratory protection: Effective dust mask. Wear respirator with dust filter..

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid.	Appearance: No information available	Color: No information available
Odor: No information available	Taste No information available	Molecular/Formula weight: 116.20
Formula: C6H16N2	Flammability: No information available	Flash point (°C): No data available
Flashpoint (°C/°F): 81.1°C/178°F	Flash Point Tested according to: Closed cup	Lower Explosion Limit (%): 0.7
Upper Explosion Limit (%): 6.3	Autoignition Temperature (°C/°F): 285°C/545°F	pH: No information available
Melting point/range(°C/°F): 42°C/107.6°F	Boiling point/range(°C/°F): 204°C/399.2°F	Decomposition temperature(°C/°F): No information available
Bulk density: No information available	Specific gravity: 0.8477	Vapor pressure @ 20°C (kPa): No information available
Density (g/cm3): No information available	Evaporation rate: No information available	Vapor density: 4
VOC content (g/L): No information available	Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available
Viscosity: No information available	Miscibility: No information available	Solubility: Easily soluble in cold water

10. STABILITY AND REACTIVITY

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Reactivity

Hygroscopic. It absorbs moisture from the air

Chemical stability

Stability: Hygroscopic.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Exposure to moisture. Heat. Ignition sources. Incompatible materials.

Incompatible Materials: No information available

Hazardous decomposition products: Carbon oxides. Nitrogen oxides (NOx).

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

None.

Acute Toxicity

Component Information

1,6-Hexanediamine - 124-09-4

LD50/oral/rat = 750 mg/kg Oral LD50 Rat

LD50/oral/mouse = 380 mg/kg Oral LD50 Mouse

LD50/dermal/rat = No information available

LD50/dermal/rabbit = 1110 mg/kg Dermal LD50Rabbit

LC50/inhalation/rat = >950 mg/m³ Inhalation LC50 Rat 4H

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 750mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 380mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = 1110mg/kg

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

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VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = >950mg/m³ (4-hr.)

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Harmful in contact with skin. Contact causes severe skin irritation and possible burns.

Eye Contact: Causes severe eye irritation and possible burns.

Inhalation May cause respiratory tract irritation.

Ingestion Harmful if swallowed.

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
1,6-Hexanediamine	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available

STOT - repeated exposure No information available

Target Organs: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: No data available.

1,6-Hexanediamine - 124-09-4

Freshwater Algae Data: 14.8 mg/L EC50 Pseudokirchneriella subcapitata 96 h
15 mg/L EC50 Pseudokirchneriella subcapitata 72 h

Freshwater Fish Species Data: 1825 mg/L LC50 Pimephales promelas 96 h static 1
56 mg/L LC50 Lepomis macrochirus 96 h static 1

Water Flea Data: 23.4 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
1,6-Hexanediamine	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2280
Proper Shipping Name: Hexamethylenediamine, solid
Hazard Class: 8
Subsidiary Risk:
Packing Group: III
ERG No: 153
Marine Pollutant: No data available
DOT RQ (lbs): No information available

Symbol(s):

TDG (Canada)

UN-No: UN2280
Proper Shipping Name: Hexamethylenediamine, solid
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

ADR

UN-No: UN2280

Product code: HE170

Product name: 1,6-HEXANEDIAMINE,
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14. TRANSPORT INFORMATION

Proper Shipping Name: Hexamethylenediamine, solid
Hazard Class: 8
Packing Group: III
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN2280
Proper Shipping Name: Hexamethylenediamine, molten
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN2280
Proper Shipping Name: Hexamethylenediamine, solid
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN2280
Proper Shipping Name: Hexamethylenediamine, solid
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

IATA

UN-No: UN2280
Proper Shipping Name: Hexamethylenediamine, solid
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 8L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
1,6-Hexanediamine	Present	Present KE-18611	Present	Present (2)-153	Present	Present	Present 204-679-6

U.S. Regulations

Product code: HE170

Product name: 1,6-HEXANEDIAMINE,
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1,6-Hexanediamine

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 0994

Minnesota - Hazardous Substance List: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
1,6-Hexanediamine	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
1,6-Hexanediamine	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
1,6-Hexanediamine	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

E Corrosive material

1,6-Hexanediamine

E

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
1,6-Hexanediamine	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
1,6-Hexanediamine	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
1,6-Hexanediamine	Not listed	Not listed

EU Classification

Product code: HE170

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R-phrase(s)

R34 - Causes burns.

R43 - May cause sensitization by skin contact.

R21/22 - Harmful in contact with skin and if swallowed.

S -phrase(s)

none

Components	Classification	Concentration Limits:	Safety Phrases
1,6-Hexanediamine	Xn; R21/22 C; R34 Xi; R37	No information	S1/2 S22 S26 S36/37/39 S45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

None.

16. OTHER INFORMATION

16. OTHER INFORMATION

Revision Date: 06/15/2015
Prepared by: Sonia Owen

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet