Infosafe No™	1CH09	Issue Date : November 2018	RE-ISSUED by CHEMSUPP

Product Name : **1,6-DIAMINOHEXANE**

Classified as hazardous

1. Identification

GHS Product Identifier: 1,6-DIAMINOHEXANE

Company Name: CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

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Recommended use of the chemical and restrictions on use: Formation of high polymers, such as nylon 66.

Other Names

Name	Product Code
1,6-DIAMINOHEXANE LR	DL017
Hexamethylenediamine	
1,6-Hexanediamine	

Other Information

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture:
Acute Toxicity - Dermal: Category 4
Acute Toxicity - Oral: Category 4
Skin Corrosion/Irritation: Category 1B
Specific target organ toxicity - Single Exposure Category 3 (respiratory tract irritation)

Signal Word (s): DANGER

Hazard Statement (s):
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Pictogram (s): Corrosion, Exclamation mark




Precautionary statement – Prevention:
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response:
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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Precautionary statement – Storage	P405 Store locked up.
Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization Solid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
1,6-Diaminohexane	124-09-4	100 %		

4. First-aid measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open.In all cases of eye contamination it is a sensible precaution to seek medical advice.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products	Combustible. May emit toxic fumes in fire such as oxides of nitrogen and carbon.
Specific Methods	Small fire: Use dry chemical, CO2 or water spray. If safe to do so, move undamaged containers from the fire area. Large fire: Use dry chemical, CO2, water spray or foam - Do NOT use water jets. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.
Specific hazards arising from the chemical	May burn but does not ignite readily. Containers may explode when heated. When heated, vapours may form explosive mixtures with air. Contact with metals may evolve flammable hydrogen gas. Runoff may pollute waterways. Fire will produce irritating, poisonous and/or corrosive gases.
Hazchem Code	2X
Decomposition Temp.	204 - 205 °C (boiling point)
Precautions in connection with Fire	Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

6. Accidental release measures

Personal Precautions	Evacuate the area of all non-essential personnel. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.
Environmental Precautions	Prevent further leakage or spillage and prevent from entering drains

7. Handling and storage

Precautions for Safe Handling	Avoid inhalation and ingestion of dust. Avoid contact with skin. Avoid contact with eyes. Use product in presence of ventilation.

Conditions for safe storage, including any incompatabilities	Store away from oxidizing agents. Store away from sources of heat or ignition. Store in a cool,dry place. Keep containers closed at all times. Protect and store away from moisture and direct sunlight.
Storage Regulations	Refer Australian Standard AS 3780-1994 'The storage and handling of corrosive substances'.

8. Exposure controls/personal protection

Other Exposure Information	No exposure standards have been established for this product by Safe Work Australia, however, the TWA exposure standard for dusts/mists not otherwise specified is 10 mg/m3. All atmospheric contamination should be kept to as low a level as is workable.
Appropriate engineering controls	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Body Protection	Wear suitable protective clothing to prevent skin contact.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Solid
Appearance	White crystalline solid.
Odour	Odour of piperidine.
Decomposition Temperature	204 - 205 °C (boiling point)
Melting Point	39 - 42 °C
Boiling Point	204 - 205 °C
Solubility in Water	Very soluble.
Solubility in Organic Solvents	Slightly soluble in alcohol and benzene.
Specific Gravity	0.84
pH	12.4 (100 g/l, H2O, 20 °C)
Vapour Pressure	27 hPa @ 100 °C
Flash Point	84 °C; closed cup
Flammability	Combustible.
Auto-Ignition Temperature	305 °C
Flammable Limits - Lower	0.9 Vol%
Flammable Limits - Upper	7.6 Vol%
Molecular Weight	116.21

10. Stability and reactivity

Chemical Stability	Stable. Absorbs water and carbon dioxide from the air.
Conditions to Avoid	Strong heating.
Incompatible Materials	Strong oxidisers, acids, acid chlorides, acid anhydrides, acid halides and carbon dioxide.
Hazardous Decomposition Products	Oxides of carbon and nitrogen. Ammonia.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50(rat): 850 mg/kg (IUCLID)
Acute Toxicity - Dermal	LD50(rabbit): 1110 mg/kg (IUCLID)
Ingestion	Harmful if swallowed. Burns to the mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract with symptoms of burning, sneezing and coughing.
Inhalation	Harmful by inhalation. Inhalation of dust may result in respiratory irritation to the mucous membranes and upper respiratory tract. Symptoms include of coughing and dyspnoea.
Skin	Harmful by skin absorption. Causes burns. May cause allergic response. Symptoms include of inflammation, blistering, itching, scaling and reddening.
Eye	Eye contact with the material causes burns. May cause permanent eye damage and blindness. Symptoms include of redness, watering and itching.
Carcinogenicity	Not classified as a human carcinogen.
Chronic Effects	Prolonged or repeated exposure can produce lung dmamage, choking, unconsciousness and even death. Exposure to high concentrations of this material may result in extensive organ damage, liver and kidney injury and anaemia. Risk of perforation in the oesophagus and stomach.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Persistence and degradability	Readibly degradable. 98%/8d.
Bioaccumulative Potential	No bioaccumulation is to be expected (log P(o/w < 1).
Environmental Protection	Do not allow product to enter drains, waterways or sewers.
Acute Toxicity - Fish	LC50(L. idus): 62 mg/l/96 h (IUCLID)
Acute Toxicity - Daphnia	EC50(Daphnia magna): 23.4 mg/l/48 h (IUCLID)
Acute Toxicity - Algae	IC50(Selenastrum capricornutum): 15 mg/l/72 h.

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following: Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity.
U.N. Number	2280
UN proper shipping name	HEXAMETHYLENE DIAMINE, SOLID
Transport hazard class(es)	8
Hazchem Code	2X

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Packaging Method	3.8.8
Packing Group	III
EPG Number	8A1
IERG Number	36

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	Not Scheduled

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.
Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
Empirical Formula & Structural Formula	C6 H16 N2

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