



Infosafe No™	1CHON	Issue Date : July 2018	RE-ISSUED by CHEMSUPP
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Product Name : **HEXAMINE**

Classified as hazardous

**1. Identification**

<b>GHS Product Identifier</b>	HEXAMINE	
<b>Company Name</b>	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)	
<b>Address</b>	38 - 50 Bedford Street GILLMAN SA 5013 Australia	
<b>Telephone/Fax Number</b>	Tel: (08) 8440-2000 Fax: (08) 8440-2001	
<b>Recommended use of the chemical and restrictions on use</b>	Curing of phenolformaldehyde and resorcinolformaldehyde resins, rubber-to-textile adhesives, protein modifier, organic synthesis, pharmaceuticals, ingredient of highly explosive cyclonite, fuel tablets, rubber accelerator, fungicide, corrosion inhibitor, shrink-proofing textiles, antibacterial and laboratory reagent.	
<b>Other Names</b>	<b>Name</b>	<b>Product Code</b>
	HEXAMINE AR	HA019
	Hexamethylenetetramine	
	Methenamine	
	HMTA	
	Aminoform	
	HEXAMINE TG	HT019
<b>Other Information</b>	EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm, Monday to Friday.	

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**

<b>GHS classification of the substance/mixture</b>	Flammable Solids: Category 2 Sensitization - Skin: Category 1 Sensitization - Respiratory: Category 1
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H228 Flammable solid. H317 May cause an allergic skin reaction. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Pictogram (s)</b>	Flame, Exclamation mark



<b>Precautionary statement – Prevention</b>	P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/.../equipment. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing/eye protection/face protection. P285 In case of inadequate ventilation wear respiratory protection.
<b>Precautionary statement – Response</b>	P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P363 Wash contaminated clothing before reuse. P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.



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**Precautionary statement – Disposal**

P370+P378 In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or foam for extinction.  
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
	Hexamine	100-97-0	100 %		

**4. First-aid measures**

<b>Inhalation</b>	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.
<b>Skin</b>	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.
<b>Eye contact</b>	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.
<b>First Aid Facilities</b>	Maintain eyewash fountain and safety shower in work area.
<b>Advice to Doctor</b>	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

**5. Fire-fighting measures**

<b>Hazards from Combustion Products</b>	May form nitrogen oxides, ammonia or hydrogen cyanide.
<b>Specific Methods</b>	Small fire: Use dry chemical, CO <sub>2</sub> , water spray or foam. Large fire: Use water spray, fog or foam. If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.
<b>Specific hazards arising from the chemical</b>	May be ignited by friction, heat, sparks or flame. Vapours, dust or turnings may form explosive mixtures with air. May burn fiercely. May re-ignite after fire is extinguished. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Runoff may pollute waterways. May be transported in a molten form. Solids may melt and flow when heated or involved in a fire.
<b>Hazchem Code</b>	1Z
<b>Precautions in connection with Fire</b>	Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.

**6. Accidental release measures**

<b>Spills &amp; Disposal</b>	Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 15m. Do NOT touch or walk through spilled product. Prevent entry into waterways, drains or confined areas.
<b>Personal Precautions</b>	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.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)
<b>Clean-up Methods - Small Spillages</b>	Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations.
<b>Clean-up Methods - Large Spillages</b>	Seek expert advice on handling and disposal.
<b>Environmental Precautions</b>	Prevent contamination of soil and water.

**7. Handling and storage**

<b>Precautions for Safe Handling</b>	Use in well ventilated areas away from all ignition sources. Take precautionary measures against static discharges.
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**Conditions for safe storage, including any incompatibilities** Store in a cool, dry place. Store away from sources of heat or ignition. Keep containers closed at all times.

**Storage Regulations** Refer Australian Standard AS/NZS 5026-2012 'The storage and handling of Class 4 dangerous goods'.

**Storage Temperatures** Store at room temperature (15 to 25 °C recommended).

## 8. Exposure controls/personal protection

<b>Other Exposure Information</b>	Hexamine could decompose to formaldehyde, which is a listed potential carcinogen. Carcinogen Category 2 - Probable human carcinogen - Safe Work Aust. Category 2. A time weighted average (TWA) has been established for Formaldehyde (Worksafe Aust) of 1.0 mg/m <sup>3</sup> , (1.2 ppm). The corresponding STEL level is 2.0 mg/m <sup>3</sup> , (2.5 ppm). The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Note: Formaldehyde is known to act as sensitiser.
<b>Respiratory Protection</b>	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.
<b>Eye Protection</b>	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.
<b>Hand Protection</b>	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
<b>Personal Protective Equipment</b>	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.
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
<b>Body Protection</b>	Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
<b>Hygiene Measures</b>	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

<b>Form</b>	Solid.
<b>Appearance</b>	White crystalline powder or colourless lustrous crystals.
<b>Odour</b>	Amine like.
<b>Melting Point</b>	280 °C (536 °F)
<b>Boiling Point</b>	Not available.
<b>Solubility in Water</b>	895 g/l (20 °C)
<b>Solubility in Organic Solvents</b>	Soluble in alcohol and chloroform. Insoluble in ether.
<b>Specific Gravity</b>	1.33 g/cm <sup>3</sup> at 20°C
<b>pH</b>	7 - 9 (100g/l, H <sub>2</sub> O, 20 °C)
<b>Coefficient Water/Oil Distr.</b>	log Pow: -2.179 at 20 °C
<b>Flash Point</b>	250 °C closed cup.
<b>Flammability</b>	Flammable.
<b>Auto-Ignition Temperature</b>	410 °C



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<b>Molecular Weight</b>	140.19
<b>Other Information</b>	Sublimes approximately 200 °C. Explosive limits 20 g/m3 (dust).

**10. Stability and reactivity**

<b>Chemical Stability</b>	Stable under normal conditions. Moisture sensitive.
<b>Conditions to Avoid</b>	Heat, flames, ignition sources and incompatibles.
<b>Incompatible Materials</b>	Oxidising agents Acids. Peroxide compounds.
<b>Hazardous Decomposition Products</b>	Nitrogen, water, formaldehyde and oxides of carbon.
<b>Hazardous Polymerization</b>	Will not occur.

**11. Toxicological Information**

<b>Acute Toxicity - Oral</b>	Oral LD50 (rat): >20000 mg/kg
<b>Ingestion</b>	May cause gastroenteritis with abdominal pain, nausea, vomiting and diarrhea. Systemic effects may follow and may include ringing of the ears, dizziness, elevated blood pressure, blurred vision and tremors.
<b>Inhalation</b>	May cause sensitisation by inhalation. May cause irritation to the respiratory tract, coughing, shortness of breath, sore throat and runny nose.
<b>Skin</b>	May cause sensitisation by skin contact. May cause irritation with symptoms of redness, swelling, itching and pain.
<b>Eye</b>	May cause irritation with symptoms of redness, swelling, itching, tearing and pain.
<b>Respiratory sensitisation</b>	Sensitization - Respiratory: Category 1
<b>Skin Sensitisation</b>	Sensitization - Skin: Category 1
<b>Carcinogenicity</b>	No significant ingredient is classified as carcinogenic by Safe Work Australia. No significant ingredient is classified as carcinogenic by International Agency for Research on Cancer.
<b>Chronic Effects</b>	Prolonged skin contact may produce a rash to affected area (in particular the wrist, ankles, beltline, and collar area of the neck) similar in appearance to poison ivy. Hexamine may decompose to formaldehyde in the presence of perspiration (slightly acidic pH 4-6.5). The formaldehyde is trapped in the sweat pores of the skin and then oxidized to formic acid, which is believed to be the actual agent responsible for the skin rash. (WARNING: Formaldehyde may be a potential cancer hazard). Accute Health Effects: Hexamine could decompose to formaldehyde, which is a listed potential carcinogen.

**12. Ecological information**

<b>Persistence and degradability</b>	Biodegradability this product is not readily biodegradable.
<b>Acute Toxicity - Daphnia</b>	Daphnia magna EC50: 36g/l /48hr.

**13. Disposal considerations**

<b>Disposal Considerations</b>	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.
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**14. Transport information**

<b>Transport Information</b>	Dangerous goods of Class 4.1 (Flammable Solid) are incompatible in a placard load with any of the following: Class 1, Class 2.1, Class 4.2, Class 5, Class 7.
<b>U.N. Number</b>	1328
<b>UN proper shipping name</b>	HEXAMETHYLENE TETRAMINE
<b>Transport hazard class(es)</b>	4.1
<b>Hazchem Code</b>	1Z



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**Packaging Method** 3.8.4.1**Packing Group** III**EPG Number** 4A1**IERG Number** 20**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** S4

**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 for 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** (CH<sub>2</sub>)<sub>6</sub> N<sub>4</sub>

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