

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

## Section 1 - Identification

|                     |                                                     |
|---------------------|-----------------------------------------------------|
| <b>Product Name</b> | <u>Hexamine</u>                                     |
| <b>CAS No</b>       | 100-97-0                                            |
| <b>Synonyms</b>     | HMTA; Hexamine; Methenamine; Hexamethylenetetramine |

|                                |                                                                                                      |
|--------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Product Code</b>            | <b>H/0300/60, H/0300/65, H/0300/53, H/0300/70</b>                                                    |
| <b>Address</b>                 | ThermoFisher Scientific Australia Pty Ltd<br>5 Caribbean Drive, Scoresby<br>VICTORIA 3179, Australia |
| <b>Emergency Tel.</b>          | <b>CHEMTREC®</b><br><b>03 9757 4559 or +613 9757 4559</b>                                            |
| <b>Telephone / Fax Numbers</b> | Tel: 1300 735 292<br>Fax: 1800 067 639                                                               |
| <b>E-mail address</b>          | ANZinfo@thermofisher.com                                                                             |

**Recommended Use** Laboratory chemicals.

**Uses advised against** This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

## Section 2 - Hazard(s) Identification

### Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

#### Physical hazards

Flammable solids

Category 2

#### Health hazards

Skin Sensitization

Category 1

#### Environmental hazards

No hazards identified

### Label Elements



Flame



Exclamation Mark

**Signal Word****Warning****Hazard Statements**

H317 - May cause an allergic skin reaction

H228 - Flammable solid

May form combustible dust concentrations in air

**Precautionary Statements**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P272 - Contaminated work clothing should not be allowed out of the workplace

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P240 - Ground and bond container and receiving equipment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

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

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

May form explosible dust-air mixture if dispersed

Toxic to terrestrial vertebrates

## Section 3 - Composition and Information on Ingredients

| Component   | CAS No   | Weight % |
|-------------|----------|----------|
| Methenamine | 100-97-0 | >95      |

## Section 4 - First Aid Measures

|                                            |                                                                                                                                                                                                                                                      |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.                                                                                                                                         |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.                                                                                                                                                |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.                                                                                                                                    |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.                                                                                                                                      |
| <b>General Advice</b>                      | If symptoms persist, call a physician.                                                                                                                                                                                                               |
| <b>Self-Protection of the First Aider</b>  | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.                                                                                                     |
| <b>First Aid Facilities</b>                | Eyewash, safety shower and washroom.                                                                                                                                                                                                                 |
| <b>Most important symptoms and effects</b> | None reasonably foreseeable. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |
| <b>Notes to Physician</b>                  | Treat symptomatically.                                                                                                                                                                                                                               |

## Section 5 - Fire Fighting Measures

### Suitable Extinguishing Media

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

### Extinguishing media which must not be used for safety reasons

No information available.

### Hazardous Decomposition Products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Ammonia, Formaldehyde.

### Decomposition Temperature

260 (sublimation) °C

### Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Dust can form an explosive mixture with air. Fine dust dispersed in air may ignite.

### Special protective equipment and precautions for fire fighters

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

## Section 6 - Accidental Release Measures

### Emergency procedures

Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation.

### Environmental Precautions

Should not be released into the environment.

### Methods for Containment and Clean Up

#### Clean-up methods - small spillage

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

#### Clean-up methods - large spillage

Typically only supplied in small quantities as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Avoid ingestion and inhalation. Avoid dust formation. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.

### Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat, sparks and flame.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

## Section 8 - Exposure Controls and Personal Protection

### Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

| Component   | Australia | New Zealand WEL | ACGIH TLV                | The United Kingdom | Germany |
|-------------|-----------|-----------------|--------------------------|--------------------|---------|
| Methenamine |           |                 | TWA: 1 mg/m <sup>3</sup> |                    |         |

### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

### Exposure Controls

#### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

#### Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments        |
|----------------|-------------------|-----------------|-----------------|-----------------------|
| Natural rubber | See manufacturers | -               | AS/NZS 2161     | (minimum requirement) |
| Nitrile rubber | recommendations   |                 |                 |                       |
| Neoprene       |                   |                 |                 |                       |
| PVC            |                   |                 |                 |                       |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### Skin and body protection

Long sleeved clothing

#### Respiratory Protection

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

#### Recommended Filter type:

Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

#### Recommended half mask:-

Particle filtering: EN149:2001 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls

No information available.

## Section 9 - Physical and Chemical Properties

### Information on basic physical and chemical properties

|                |       |
|----------------|-------|
| Appearance     | White |
| Physical State | Solid |

|                                         |                          |                                          |
|-----------------------------------------|--------------------------|------------------------------------------|
| Odor                                    | Ammonia-like             |                                          |
| Odor Threshold                          | No data available        |                                          |
| pH                                      | 7 - 10                   | 10% aq. solution                         |
| Melting Point/Range                     | No data available        |                                          |
| Softening Point                         | No data available        |                                          |
| Boiling Point/Range                     | No information available |                                          |
| Flash Point                             | 250 °C / 482 °F          | <b>Method -</b> No information available |
| Evaporation Rate                        | Not applicable           | Solid                                    |
| Flammability (solid,gas)                | No information available |                                          |
| Explosion Limits                        | <b>Lower</b> 20 vol%     |                                          |
| Vapor Pressure                          | 0.0035 hPa @ 20 °C       |                                          |
| Vapor Density                           | Not applicable           | Solid                                    |
| Specific Gravity / Density              | 1.330                    |                                          |
| Bulk Density                            | No data available        |                                          |
| Water Solubility                        | 895 g/L (20°C)           |                                          |
| Solubility in other solvents            | No information available |                                          |
| Partition Coefficient (n-octanol/water) |                          |                                          |
| Component                               | <b>log Pow</b>           |                                          |
| Methenamine                             | -2.2                     |                                          |
| Autoignition Temperature                | 400 °C / 752 °F          |                                          |
| Decomposition Temperature               | 260 (sublimation) °C     |                                          |
| Viscosity                               | Not applicable           | Solid                                    |
| Explosive Properties                    | No information available |                                          |
| Oxidizing Properties                    | No information available |                                          |
| <b>Other information</b>                |                          |                                          |
| Molecular Formula                       | C6 H12 N4                |                                          |
| Molecular Weight                        | 140.19                   |                                          |

## Section 10 - Stability and Reactivity

|                                  |                                                                                                                                                   |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                       | None known, based on information available                                                                                                        |
| Stability                        | Stable under normal conditions. Moisture sensitive.                                                                                               |
| Conditions to Avoid              | Avoid dust formation, Keep away from open flames, hot surfaces and sources of ignition, Incompatible products, Excess heat, Exposure to moisture. |
| Incompatible Materials           | Strong oxidizing agents, Strong acids.                                                                                                            |
| Hazardous Decomposition Products | Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Nitrogen oxides (NO <sub>x</sub> ). Ammonia. Formaldehyde.                               |
| Hazardous Polymerization         | No information available.                                                                                                                         |

## Section 11 - Toxicological Information

### Information on Toxicological Effects

#### Product Information

|                     |                                                                  |
|---------------------|------------------------------------------------------------------|
| (a) acute toxicity; |                                                                  |
| Oral                | Based on available data, the classification criteria are not met |
| Dermal              | Based on available data, the classification criteria are not met |
| Inhalation          | No data available                                                |

| Component   | LD50 Oral          | LD50 Dermal         | LC50 Inhalation |
|-------------|--------------------|---------------------|-----------------|
| Methenamine | 9200 mg/kg ( Rat ) | >2000 mg/kg ( Rat ) |                 |

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

Respiratory  
Skin

Based on available data, the classification criteria are not met  
Category 1

| Component                       | Test method                                | Test species | Study result |
|---------------------------------|--------------------------------------------|--------------|--------------|
| Methenamine<br>100-97-0 ( >95 ) | OECD Test Guideline 406 Skin sensitization | guinea pig   | Sensitizer   |

Sensitization

May cause sensitization by skin contact

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

(f) carcinogenicity;

Based on available data, the classification criteria are not met  
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;

Based on available data, the classification criteria are not met

(h) STOT-single exposure;

Based on available data, the classification criteria are not met

(i) STOT-repeated exposure;

Based on available data, the classification criteria are not met

Target Organs

None known.

(j) aspiration hazard;

Not applicable  
Solid

Symptoms / effects, both acute and delayed

Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

## Section 12 - Ecological Information

### Ecotoxicity effects

| Component   | Freshwater Fish                           | Water Flea        | Freshwater Algae | Microtox |
|-------------|-------------------------------------------|-------------------|------------------|----------|
| Methenamine | Pimephales promelas:<br>EC50=49.8 g/L/96h | EC50 = 36 g/L/48h |                  |          |

### Persistence and Degradability

#### Persistence

Soluble in water, Persistence is unlikely, based on information available.

#### Bioaccumulative Potential

Bioaccumulation is unlikely

| Component   | log Pow | Bioconcentration factor (BCF) |
|-------------|---------|-------------------------------|
| Methenamine | -2.2    | No data available             |

### Mobility

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility Highly mobile in soils

### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

### Persistent Organic Pollutant

This product does not contain any known or suspected substance

### Ozone Depletion Potential

This product does not contain any known or suspected substance

## Section 13 - Disposal Considerations

### Waste from Residues/Unused

Do not allow into drains or watercourses or dispose of where ground or surface waters may

|                               |                                                                                                                                                                                                                                                                                                    |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Products</b>               | be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.                                                                         |
| <b>Contaminated Packaging</b> | Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.                                                           |
| <b>Other Information</b>      | Chemical wastes should be disposed through a licensed commercial waste collection service. Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations. |

## Section 14 - Transport Information

### IMDG/IMO

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1328                 |
| <b>Proper Shipping Name</b> | Hexamethylenetetramine |
| <b>Hazard Class</b>         | 4.1                    |
| <b>Packing Group</b>        | III                    |

### ADG

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1328                 |
| <b>Proper Shipping Name</b> | Hexamethylenetetramine |
| <b>Hazard Class</b>         | 4.1                    |
| <b>Packing Group</b>        | III                    |

| Component                       | Hazchem Code |
|---------------------------------|--------------|
| Methenamine<br>100-97-0 ( >95 ) | 1Z           |

### IATA

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1328                 |
| <b>Proper Shipping Name</b> | Hexamethylenetetramine |
| <b>Hazard Class</b>         | 4.1                    |
| <b>Packing Group</b>        | III                    |

|                               |                                 |
|-------------------------------|---------------------------------|
| <b>Environmental hazards</b>  | No hazards identified           |
| <b>Special Precautions</b>    | No special precautions required |
| <b>Additional information</b> | None known                      |

## Section 15 - Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National Regulations      **Australia**

See section 8 for national exposure control parameters.

#### **Standard for the Uniform Scheduling of Medicines and Poisons**

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

| Component | Standard for the Uniform Scheduling of Medicines and Poisons |
|-----------|--------------------------------------------------------------|
|-----------|--------------------------------------------------------------|

|                        |                                                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------|
| Methenamine - 100-97-0 | Schedule 5 listed - in cosmetic preparations;except in preparations containing <=0.15% of Methenamine |
|------------------------|-------------------------------------------------------------------------------------------------------|

**Australian Industrial Chemicals Introduction Scheme (AICIS)**

| Component              | Australian Industrial Chemicals Introduction Scheme (AICIS) | Additional information |
|------------------------|-------------------------------------------------------------|------------------------|
| Methenamine - 100-97-0 | Present                                                     | -                      |

**Australian - Illicit Drug Precursors/Reagents Substance List**

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

**Chemicals of Security Concern**

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

**National pollutant inventory** Not applicable

**Prohibition or notification/licensing requirements**

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

**International Inventories**

| Component   | AICS | NZIoC | EINECS    | ELINCS | TSCA | DSL | NDL | PICCS | ENCS | ISHL | IECSC | KECL     |
|-------------|------|-------|-----------|--------|------|-----|-----|-------|------|------|-------|----------|
| Methenamine | X    | X     | 202-905-8 | -      | X    | X   | -   | X     | X    | X    | X     | KE-18615 |

**Legend:** X - Listed. '-' - Not Listed. **KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**International Regulations**

**Ozone Depletion Potential** This product does not contain any known or suspected substance

**Persistent Organic Pollutant** This product does not contain any known or suspected substance

**Rotterdam Convention (PIC)** Not applicable

**Basel convention on the control of transboundary movements of hazardous wastes and their disposal**

Not applicable.

| Component   | CAS No   | OECD HPV | Restriction of Hazardous Substances (RoHS) | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|-------------|----------|----------|--------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Methenamine | 100-97-0 | Listed   | Not applicable                             | Not applicable                                                                            | Not applicable                                                                           |

**Authorisation/Restrictions according to EU REACH**



| Component   | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Methenamine | -                                                                   | Use restricted. See item 75. (see link for restriction details)               | -                                                                                                     |

<https://echa.europa.eu/substances-restricted-under-reach>

## Section 16 - Other Information

### Legend

|                                                                                                      |                                                                                                                              |
|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>AICS</b> - Australian Inventory of Chemical Substances                                            | <b>NZIoC</b> - New Zealand Inventory of Chemicals                                                                            |
| <b>TSCA</b> - United States Toxic Substances Control Act Section 8(b) Inventory                      | <b>EINECS/ELINCS</b> - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances |
| <b>DSL/NDL</b> - Canadian Domestic Substances List/Non-Domestic Substances List                      | <b>ENCS</b> - Japanese Existing and New Chemical Substances                                                                  |
| <b>IECSC</b> - Chinese Inventory of Existing Chemical Substances                                     | <b>KECL</b> - Korean Existing and Evaluated Chemical Substances                                                              |
| <b>PICCS</b> - Philippines Inventory of Chemicals and Chemical Substances                            | <b>CAS</b> - Chemical Abstracts Service                                                                                      |
| <b>TWA</b> - Time Weighted Average                                                                   | <b>ACGIH</b> - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)            |
| <b>IARC</b> - International Agency for Research on Cancer                                            | <b>IMO/IMDG</b> - International Maritime Organization/International Maritime Dangerous Goods Code                            |
| <b>ICAO/IATA</b> - International Civil Aviation Organization/International Air Transport Association | <b>ADG</b> Australian Code for the Transport of Dangerous Goods by Road and Rail                                             |
| <b>MARPOL</b> - International Convention for the Prevention of Pollution from Ships                  | <b>OECD</b> - Organisation for Economic Co-operation and Development                                                         |
| <b>NZS 5433:2012</b> - Transport of Dangerous Goods on Land                                          | <b>LC50</b> - Lethal Concentration 50%                                                                                       |
| <b>LD50</b> - Lethal Dose 50%                                                                        | <b>ATE</b> - Acute Toxicity Estimate                                                                                         |
| <b>EC50</b> - Effective Concentration 50%                                                            | <b>RPE</b> - Respiratory Protective Equipment                                                                                |
| <b>WEL</b> - Workplace Exposure Limit                                                                | <b>NOEC</b> - No Observed Effect Concentration                                                                               |
| <b>DNEL</b> - Derived No Effect Level                                                                | <b>BCF</b> - Bioconcentration factor                                                                                         |
| <b>POW</b> - Partition coefficient Octanol:Water                                                     | <b>PBT</b> - Persistent, Bioaccumulative, Toxic                                                                              |
| <b>vPvB</b> - very Persistent, very Bioaccumulative                                                  |                                                                                                                              |
| <b>VOC</b> - (Volatile Organic Compound)                                                             |                                                                                                                              |

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

**Revision Date** 18-Nov-2022  
**Revision Summary** Not applicable.

**This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).**

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

## End of Safety Data Sheet