| Infosafe No™ | 1CH6J | Issue Date : November 2015 | RE-ISSUED by CHEMSUPP |
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Product Name : **SODIUM METAL**

Classified as hazardous

## 1. Identification

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| **GHS Product Identifier** | SODIUM METAL |
| **Company Name** | CHEM-SUPPLY PTY LTD (ABN 19 008 264 211) |
| **Address** | 38 - 50 Bedford Street GILLMAN<br>SA 5013 Australia |
| **Telephone/Fax Number** | Tel: (08) 8440-2000<br>Fax: (08) 8440-2001 |
| **Recommended use of the chemical and restrictions on use** | Tetraethyl and tetramethyl lead, titanium reduction, sodium peroxide, sodium hydride, polymerisation catalyst for synthetic rubber, analytical chemistry, to make sodium salts, reducing agent (ketones), laboratory reagent, coolant in nuclear reactors, electric power cable (encased in polyethylene), non-glare lighting for highways and heat transfer agent in solar powered electric generators. |

**Other Names**

| Name | Product Code |
|---|---|
| Natrium | |
| SODIUM METAL LR | SL074 |

**Other Information**

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

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| **GHS classification of the substance/mixture** | Substances and Mixtures which, in contact with water, emit flammable gases: Category 1<br>Skin Corrosion/Irritation: Category 1A |
| **Signal Word (s)** | DANGER |
| **Hazard Statement (s)** | H260 In contact with water releases flammable gases which may ignite spontaneously.<br>H314 Causes severe skin burns and eye damage.<br>AUH014 Reacts violently with water |
| **Pictogram (s)** | Flame, Corrosion |

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| **Precautionary statement – Prevention** | P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.<br>P231+P232 Handle under inert gas. Protect from moisture.<br>P260 Do not breathe dust/fume/gas/mist/vapours/spray.<br>P264 Wash thoroughly after handling.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection. |
| **Precautionary statement – Response** | Swallowed<br>P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.<br>Skin<br>P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.<br>P363 Wash contaminated clothing before reuse.<br>Inhaled<br>P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>Eyes |

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| | P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P310 Immediately call a POISON CENTER or doctor/physician.<br>Fire<br>P335+P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.<br>P370+P378 In case of fire: Use dry chemical, soda ash, lime or sand for extinction. |
| **Precautionary statement – Storage** | P402+P404 Store in a dry place. Store in a closed container.<br>P404 Store in a closed container. |

## 3. Composition/information on ingredients

**Chemical Characterization** Solid

**Ingredients**

| Name | CAS | Proportion | Hazard Symbol | Risk Phrase |
|---|---|---|---|---|
| Sodium | 7440-23-5 | 100 % | C | R14/15, R34 |

## 4. First-aid measures

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| **Inhalation** | Remove victim to fresh air. If breathing laboured and patient cyanotic (blue), ensure airways are clear and have qualified person give oxygen through a face mask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. Keep warm and at rest. Seek urgent medical assistance. |
| **Ingestion** | Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Do not induce vomiting. Seek immediate medical assistance. |
| **Skin** | Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention. |
| **Eye contact** | Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance. |
| **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 a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once. |

## 5. Fire-fighting measures

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| **Hazards from Combustion Products** | Nature of decomposition products not known but can form flammable hydrogen in contact with air. |
| **Specific Methods** | DO NOT USE WATER OR FOAM.<br>Small fire: Use dry chemical, soda ash, lime or sand.If safe to do so, move undamaged containers from fire area.<br>Large fire: Use DRY sand, dry chemical, soda ash or lime or withdraw and let fire burn.<br>Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers. |
| **Specific hazards arising from the chemical** | Will produce flammable substance on contact with water. Will ignite on contact with water or moist air and react vigorously or explosively on contact with water. Will be ignited by heat, sparks or flame and may re-ignite after fire is extinguished. Will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Runoff may create multiple fire or explosion hazard. |
| **Hazchem Code** | 4W |
| **Precautions in connection with Fire** | Wear SCBA. Structural firefighter's uniform will provide limited protection. |

## 6. Accidental release measures

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| **Spills & Disposal** | ELIMINATE all ignition sources (no smoking, flares, sparks or flames) within at least 25m.<br>Do not touch or walk through spilled material.<br>Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.<br>Water spray may be used to knock down vapours or divert vapour clouds.<br>DO NOT GET WATER inside containers or in contact with substance.<br>Small spill<br>Cover with DRY earth, sand or other non-combustible material followed by plastic sheet to minimize spreading or contact with rain.<br>Large Spill<br>SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL. |

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| **Personal Precautions** | Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing. |
| **Personal Protection** | Wear protective clothing specified for normal operations (see Section 8) |

## 7. Handling and storage

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| **Precautions for Safe Handling** | Avoid substance contact and generation and inhalation of dust. Prevent all contact with water and with moist atmosphere. |
| **Conditions for safe storage, including any incompatabilities** | Keep containers securely sealed and protected against physical damage. Store away from sources of heat or ignition. Keep dry - reacts with water; may lead to drum rupture. Prevent all contact with water and with moist atmosphere. Keep away from direct sunlight Store at room temperature (15 - 25 °C). Store under nitrogen, mineral oil (paraffin oil or kerosene) - NEVER under halogenated hydrocarbons. |
| **Storage Regulations** | Refer Australian Standard AS/NZS 5026-2012 'The storage and handling of Class 4 dangerous goods'. |

## 8. Exposure controls/personal protection

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| **Other Exposure Information** | A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by Safe Work Australia for this product. There is a blanket limit of 10 mg/m³ for dusts when limits have not otherwise been established. |
| **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. Open containers and use in a fume cupboard only. |
| **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** | Safety glasses,goggles or faceshield as appropriate. 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. Recommendation: Plastic or rubber gloves. |
| **Personal Protective Equipment** | Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken. |
| **Footwear** | Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use. |
| **Body Protection** | Wear suitable protective clothing to prevent skin contact. |

## 9. Physical and chemical properties

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| **Form** | Solid |
| **Appearance** | Soft, silver-white or grey solid. Lustrous when cut, becomes dull on exposure to air. Wax-like at room temperature, brittle at low temperatures. |
| **Odour** | Odourless. |
| **Melting Point** | 97.6 °C |
| **Boiling Point** | 892 °C |
| **Solubility in Water** | Decomposes water on contact, violently with evolution of hydrogen to form sodium hydroxide. |
| **Solubility in Organic Solvents** | Insoluble in kerosene, benzene and naphtha. |
| **Specific Gravity** | 0.968 @ 25 °C |
| **Vapour Pressure** | 1.2 hPa @ 400 °C |
| **Flammability** | Contact with moisture or water liberates flammable gases. HIGHLY FLAMMABLE. Keep away from heat, sparks or naked flames. Use flameproof equipment and fittings to prevent flammability risk. Electrically link and ground metal containers for transfer of the product to prevent accumulation of static electricity. Ensure adequate ventilation to prevent an explosive vapour-air mixture. Vapours will travel considerable distances to sources of ignition. |
| **Molecular Weight** | 22.99 |
| **Other Information** | Ductile and malleable. Excellent electrical conductivity and high heat-absorbing capacity. Soluble in |

ammonia and mercury. Burns with a yellow flame.

## 10. Stability and reactivity

**Chemical Stability** Oxidises rapidly in air. Flammable on contact with water. Forms carbonate/hydroxide layer on exposure to moist air.

**Conditions to Avoid** Moisture.

**Incompatible Materials** Oxidising agents.

**Possibility of hazardous reactions** May react explosively with water; liberates flammable hydrogen gas.
Reacts exothermally with halogens, acids and halogenated hydrocarbons. Reacts explosively or forms explosive compounds with ice; aqueous solutions of hydrogen chloride, hydrogen fluoride or sulfuric acid; chlorobenzene and phosphorous trichloride dispersed in toluene or xylene; 1-chlorobutane with a dispersion of sodium in light petroleum (if the temperature is too low); chloroform and methanol (if inadequately cooled); diazomethane; ethanol with sodium finely dispersed in hydrocarbons (unless air is excluded); fluorinated compounds; carbon tetrachloride; chloroform; dichloromethane; chloromethane; tetrachloroethane; hexachlorocyclopentadiene; perfluorohexyl iodide; iodomethane and iodine pentafluoride.
A light explosion occurs with iodine; phosphorus tribromide (if drops of water are added); carbon monoxide; ammonium nitrate; sodium nitrate and phosphoryl chloride (on heating).
Anhydrous hydrazine and sodium in ether react to form sodium hydrazide which explodes on contact in air, and molten sodium explodes with phosphorus tri- or pentachloride. The exothermic reaction of sodium wire and chlorobenzene in benzene under nitrogen is explosive if finely divided sodium is used, and the product of reduction of napthalene in liquid ammonia detonates as crystallisation begins.
Mixtures of sodium and metal halides are sensitive to mechanical shock and other shock sensitive explosives are formed with liquid bromine, iodine bromide, iodine chloride; silver iodate or sodium iodate; phosphorus pentachloride; phosphorus tribromide; sulfur dichloride; boron tribromide; sulfur dibromide; sulfinyl fluoride; silcon tetrachloride; silicon tetrafluoride; inorganic oxygenated compounds (halide oxides or oxide sufides) or oxygen-rich organic compound (alkyl oxalates).
Sodium may ignite in nitric acid (of density above 1.056); diethyl ether; fluorine gas, moist chlorine; sulfinyl chloride vapour at 300 °C; dinitrogen pentaoxide; 2,2,3,3-tetrafluoropropanol; or on admixture with fine lead oxide.
Sodium reacts vigorously with dimethylformamide (on heating); diselenium dichloride (on heating); sodium peroxide (at 500 °C) and, when molten, with coarse lead oxide. Molten tellurium reacts vigorously when poured on to solid sodium. Ground or heated mixtures of sodium and sulfur interact violently. Reacts violently in ether with bromobenzene and 1-bromobutane (above 30 °C). Reacts violently with mercury and vanalyl chloride (above 180 °C). Reacts incandescently with iodine heptafluoride; phosphorous pentaoxide; nitrosyl fluoride and nitryl fluoride. Reduces with incandescence bismuth (III) oxide, chromium trioxide, copper (II) oxide, tin (IV) oxide (on heating), mercury (I) oxide and molybdenum trioxide (molten sodium). Finely divided sodium luminesces in bromine vapour.

## 11. Toxicological Information

**Ingestion** May cause severe burns to the mouth and gastrointestinal tract, abdominal pain and vomiting.

**Inhalation** May cause severe irritation, sore throat, coughing, shortness of breath and delayed lung edema. Fumes from burning sodium are highly irritating to the nose, throat and upper tract. May be harmful if inhaled. Extremely destructive to tissue.

**Skin** Causes burns. May cause deep, penetrating ulcers of the skin.

**Eye** Contact may cause severe burns or blindness. Fumes from burning sodium are highly irritating.

**Carcinogenicity** Not listed in the IARC Monographs.

**Mutagenicity** No evidence of mutagenic properties.

## 12. Ecological information

**Ecological Information** Product reacts with water.

**Bioaccumulative Potential** Concentration in organisms is not to be expected.

**Known Harmful Effects on the Environment** Harmful effect on aquatic organisms. Harmful effect due to pH shift (Sodium hydroxide solution could form).

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| **Environmental Protection** | Prevent this material entering waterways, drains and sewers. (Risk of explosion!) |
| **Acute Toxicity - Daphnia** | Daphnia magna (water flea) EC50: 1640 mg/l/48 h. |

## 13. Disposal considerations

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

## 14. Transport information

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| **Transport Information** | Dangerous goods of Class 4.3 (Dangerous When Wet) are incompatible in a placard load with any of the following:<br>Class 1, Class 2.1, Class 5, Class 7, Class 8. |
| **U.N. Number** | 1428 |
| **UN proper shipping name** | SODIUM |
| **Transport hazard class(es)** | 4.3 |
| **Hazchem Code** | 4W |
| **Packaging Method** | 3.8.4.1 |
| **Packing Group** | I |
| **EPG Number** | 4N3 |
| **IERG Number** | 26 |

## 15. Regulatory information

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| **Poisons Schedule** | Not Scheduled |

## 16. Other Information

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| **Literature References** | 'Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015.<br>Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.<br>National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.<br>Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.<br>Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.<br>Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.<br>Safe Work Australia, 'Hazardous Substances Information System, 2005'.<br>Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.<br>Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'. |
| **Contact Person/Point** | Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT:<br>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** | Na |

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