



Infosafe No™	1CH1J	Issue Date : March 2014	RE-ISSUED by CHEMSUPP
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Product Name : **CALCIUM METAL Dry Granules**

Classified as hazardous

**1. Identification**

<b>GHS Product Identifier</b>	CALCIUM METAL Dry Granules		
<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>	Alloying agent for aluminium, copper and lead; reducing agent for beryllium; deoxidiser for alloys. Dehydrating oils. Decarburisation and desulfurisation of iron and its alloys, getter in vacuum tubes. Separation of nitrogen from argon. Fertiliser ingredient. Reducing agent in preparation of chromium metal powder, thorium, zirconium and uranium and laboratory reagent.		
<b>Other Names</b>	<u>Name</u>	<u>Product Code</u>	
	CALCIUM METAL Dry Granules LR	CL021	
	CALCIUM METAL Dry Granules TG	CT021	
<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>	Substances and Mixtures which, in contact with water, emit flammable gases: Category 2
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H261 In contact with water releases flammable gases.
<b>Pictogram (s)</b>	Flame



<b>Precautionary statement – Prevention</b>	P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire. P231+P232 Handle under inert gas. Protect from moisture.
<b>Precautionary statement – Response</b>	P280 Wear protective gloves/protective clothing/eye protection/face protection. P335+P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
<b>Precautionary statement – Storage</b>	P370 In case of fire: Use CO2, dry chemical or foam. P402+P404 Store in a dry place. Store in a closed container.

**3. Composition/information on ingredients**

<b>Chemical Characterization</b>	Solid				
<b>Ingredients</b>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Calcium	7440-70-2	100 %	F	R15

**4. First-aid measures**



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<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, apply artificial respiration. Seek medical advice.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Do not induce vomiting. Seek immediate medical assistance.
<b>Skin</b>	Remove contaminated clothing and wash affected skin with soap and water. Wash affected areas with copious quantities of water immediately. Seek medical advice if effects persist.
<b>Eye contact</b>	Remove contact lenses. Flush eye with copious quantities of water. Seek medical attention urgently.
<b>First Aid Facilities</b>	Maintain eyewash fountain and safety shower in work area.
<b>Advice to Doctor</b>	Consult Poisons Information Centre.
<b>Other Information</b>	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**

<b>Hazards from Combustion Products</b>	Emits toxic gases under fire conditions.
<b>Specific Methods</b>	DO NOT USE WATER, FOAM, OR CO2. Small fire: Use dry chemical, soda ash, lime or dry sand. If safe to do so, move undamaged containers from the fire area. Large fire: Use DRY sand, dry chemical, soda ash or lime or withdraw and let the fire burn. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.
<b>Specific hazards arising from the chemical</b>	Produce flammable substances on contact with water. May ignite on contact with water or moist air. May react violently or explosively on contact with water. May be ignited by heat, sparks or flame. May re-ignite after fire is extinguished. Some are kept in or under flammable liquids. Fire will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Run-off may create multiple fire or explosion hazard.
<b>Hazchem Code</b>	4W
<b>Precautions in connection with Fire</b>	Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.
<b>Other Information</b>	NEVER USE WATER OR CHLORINATED HYDROCARBON-TYPE FIRE EXTINGUISHERS.

**6. Accidental release measures**

<b>Spills &amp; Disposal</b>	Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 25m. Do NOT touch or walk through spilled material. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. DO NOT GET WATER inside containers or in contact with substance. Small spill: Cover with DRY earth, sand or other non-combustible material followed by a plastic sheet to minimize spreading or contact with rain. Large Spill: SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.
<b>Personal Precautions</b>	Avoid sources of ignition. Use non sparking tools. Use in ventilated areas or in fumehood. Do NOT add water.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)

**7. Handling and storage**

<b>Precautions for Safe Handling</b>	Only use in well-ventilated areas. Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. DO NOT ingest. NEVER ADD WATER TO THIS MATERIAL.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a cool, dry place. Store away from sources of heat or ignition. Keep containers closed at all times. Store away from water, acids, oxidising agents and alcohols. Store away from water and ignition sources.

**8. Exposure controls/personal protection**

<b>Other Exposure Information</b>	A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by NOHSC Australia for this product. There is a blanket limit of 10 mg/m3 for dusts or mists when limits have not otherwise been established.
<b>Appropriate engineering controls</b>	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.



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<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>Body Protection</b>	Wear suitable protective clothing and gloves to prevent skin contact. Clean clothing or protective clothing should be worn, preferably with an 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>	Moderately soft, silver-white granular metal.
<b>Odour</b>	Odourless.
<b>Melting Point</b>	842 - 850 °C
<b>Boiling Point</b>	1484 °C
<b>Solubility in Water</b>	Slowly decomposes in water to liberate flammable hydrogen gas. (4 g/l 20 °C)
<b>Solubility in Organic Solvents</b>	Insoluble in and inert towards benzene and kerosene. Dissolves in liquid ammonia to form a blue solution.
<b>Specific Gravity</b>	1.54 @ 20 °C
<b>pH</b>	14 (4 g/l, H <sub>2</sub> O, 20 °C)
<b>Vapour Pressure</b>	10 mm @ 983 °C
<b>Vapour Density (Air=1)</b>	1.4 (air=1)
<b>Flammability</b>	HIGHLY FLAMMABLE.
<b>Molecular Weight</b>	40.08
<b>Other Information</b>	Soluble in acid. Sublimes above melting point in vacuum. Can be machined, extruded or drawn. Burns with crimson flame. Oxidises in air to form adherent bluish-gray protective film. Sublimation point above melting point in vacuum. Brinell hardness: 17

**10. Stability and reactivity**

<b>Chemical Stability</b>	Reacts readily or explosively with water producing highly flammable hydrogen gas. May ignite spontaneously if in air or in the presence of moisture.
<b>Conditions to Avoid</b>	Water (generation of hydrogen), moisture, air, ignition sources and incompatibles.
<b>Incompatible Materials</b>	Lead chloride, phosphorus pentoxide, chlorine, fluorine, oxygen, silicon, sulfur, vanadium trioxide, dinitrogen tetroxide, alcohols, dilute acids, bases, warm ammonia, oxidizing agents, carbonates, halogens, chlorine trifluoride, air, water, moisture and mixtures containing water (e.g. aqueous solutions).
<b>Hazardous Decomposition Products</b>	Hydrogen, calcium hydroxide and calcium oxide.
<b>Possibility of hazardous reactions</b>	Reacts explosively with lead chloride, phosphorus pentoxide, chlorine trifluoride, chlorine, fluorine, oxygen, silicon, sulfur, vanadium trioxide and dinitrogen tetroxide. Reaction with water, alcohols or dilute acids may be violent. Ignites in fluorine, warm ammonia or in chlorine trifluoride. This material is a reducing agent and may react vigorously with oxidising materials. On reaction with water, weak alkalis are produced, hydrogen gas liberated and heat is generated. Reacts with halogens.
<b>Hazardous Polymerization</b>	Will not occur.



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**11. Toxicological Information**

<b>Ingestion</b>	Harmful if swallowed. Burns to mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. In finely divided form, releases hydrogen in the stomach, leading to possible stomach damage. Symptoms may include irritation or burning of the soft mucous tissues, severe stomach disturbance, vomiting, abdominal pain and diarrhoea. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skins.
<b>Inhalation</b>	Harmful if inhaled. Toxic to lungs and mucous membranes. Inhalation of dust results in irritation to the mucous membranes and respiratory tract. Symptoms of exposure to the respiratory tract include burning sensation, coughing, sneezing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Severe over-exposure of the material may result in spasm, lung damage, choking, dyspnoea, inflammation and edema of the larynx and bronchi, chemical pneumonitis, pulmonary edema, unconsciousness or death. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skins.
<b>Skin</b>	Harmful if absorbed through the skin. Reaction with moisture on skin will cause irritation. Particles embedded under the skin may cause prolonged gaseous blisters.
<b>Eye</b>	Harmful when contact eyes. Corrosive to eyes. The amount of tissue damage depends on the length of contact. Reaction with moisture in the eyes will cause severe irritation.
<b>Carcinogenicity</b>	No evidence of carcinogenic properties.
<b>Chronic Effects</b>	INHALATION: Prolonged inhalation of dust or fumes may cause severe mucous membrane irritation, spasm, edema of the larynx and bronchi, pulmonary edema, chemical pneumonitis. Metal fume fever may result from the inhalation of calcium fumes if calcium is heated to high temperatures. Symptoms include chills, fever, headache, tightness of the chest, coughing, weakness, dryness of nose and mouth, muscular pain, nausea and vomiting. Symptoms of metal fume fever occur about 4 to 12 hours after exposure and usually last about 24 hours. Recovery is complete with no apparent permanent disability. INGESTION: Severe over exposure to calcium material causes burns to mucous membranes in the mouth, pharynx and gastrointestinal tract. SKIN: Repeated or prolonged skin contact results in skin burns. EYES: Repeated or prolonged eye contact results in permanent eye injury including corneal damage or blindness. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skins.
<b>Mutagenicity</b>	No evidence of mutagenic properties.

**12. Ecological information**

<b>Ecotoxicity</b>	No ecological data available for this product.
<b>Persistence and degradability</b>	Material reacts with water.
<b>Mobility</b>	No mobility data available for this product.
<b>Environmental Protection</b>	Do not allow product to enter drains, waterways or sewers.

**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 4.3 (Dangerous When Wet) are incompatible in a placard load with any of the following: Class 1, Class 2.1, Class 5, Class 7, Class 8.
<b>U.N. Number</b>	1401
<b>UN proper shipping name</b>	CALCIUM
<b>Transport hazard class(es)</b>	4.3
<b>Hazchem Code</b>	4W
<b>Packaging Method</b>	3.8.4.1
<b>Packing Group</b>	II



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EPG Number 4A3

IERG Number 26

**15. Regulatory information****Regulatory Information** Listed in the Australian Inventory of Chemical Substances (AICS).**Poisons Schedule** Not Scheduled**16. Other Information**

**Literature References**

'Standard for the Uniform Scheduling of Medicines and Poisons No. 4', Commonwealth of Australia, June 2013.

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.

'Labelling of Hazardous Workplace Chemicals, Code of Practice' Safe Work Australia.

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)]'.

**Contact****Person/Point**Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**

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**Empirical Formula & Ca****Structural Formula****Other Information**

Previously classified as:

R15 Contact with water liberates extremely flammable gases.

S24/25 Avoid contact with skin and eyes.

S43 In case of fire, use sand - never use water.

S8 Keep container dry.

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