



Infosafe No™	3CH51	Issue Date : July 2017	RE-ISSUED by CHEMSUPP
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Product Name : **CESIUM NITRATE**

Classified as hazardous

**1. Identification**

<b>GHS Product Identifier</b>	CESIUM NITRATE		
<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>	Synthesis of cesium nitratocuprate, Cs <sub>2</sub> [Cu(NO <sub>3</sub> ) <sub>4</sub> ], which crystallizes in a square-planar coordination around the Cu centre; preparation of other cesium salts; prisms for infrared spectroscopy; infrared flares; in x-ray fluorescent screens, scintillation counters; and laboratory reagent.		
<b>Other Names</b>	<b>Name</b>	<b>Product Code</b>	
	CESIUM NITRATE LR Caesium nitrate	CL541	
<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>	Oxidizing Solids: Category 1 Acute Toxicity - Oral: Category 4
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H271 May cause fire or explosion; strong oxidiser. H302 Harmful if swallowed.
<b>Pictogram (s)</b>	Flame over circle, Exclamation mark,



<b>Precautionary statement – Prevention</b>	P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P220 Store away from strong reducing agents, easily oxidized materials, alcohols, aluminium and combustible materials. P221 Take any precaution to avoid mixing with combustibles. 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. P283 Wear fire/flame resistant/retardant clothing.
<b>Precautionary statement – Response</b>	P370+P378 In case of fire: Use flooding quantities of water for extinction. P306+P360 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. P370+P380+P375 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330 Rinse mouth.
<b>Precautionary statement – Disposal</b>	P501 Dispose of contents/container according to local, state and federal regulations.



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**3. Composition/information on ingredients**

Chemical Solid

## Characterization

## Ingredients

<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
Cesium nitrate	7789-18-6	100 %		

**4. First-aid measures**

**Inhalation** Remove from exposure, rest and keep warm. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

**Ingestion** 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.

**Skin** Wash affected area thoroughly with copious amounts of running water. Remove contaminated clothing and wash before reuse. Seek medical attention.

**Eye contact** Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.

**First Aid Facilities** Maintain eyewash fountain and drench facilities 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.

**5. Fire-fighting measures**

**Hazards from Combustion Products** Irritating and highly toxic gases, including oxides of nitrogen and cesium oxide fumes.

**Specific Methods** Small fire: USE FLOODING QUANTITIES OF WATER. Do not use dry chemicals, CO<sub>2</sub> or foam. If safe to do so, move undamaged containers from fire area. Do not move cargo if cargo has been exposed to heat.  
Large fire: Flood fire area with water from a protected position. Cool containers with flooding quantities of water until well after fire is out - If impossible, withdraw from area and let fire burn. Avoid getting water inside containers: a violent reaction may occur. Dam fire control water for later disposal.

**Specific hazards arising from the chemical** Will accelerate burning when involved in a fire. May explode from heating, shock, friction or contamination. May react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, clothing, etc). Fire may produce irritating, poisonous, and/or corrosive gases. Containers may explode when heated. Runoff may create fire or explosion hazard.

**Hazchem Code** 1[Z]

**Decomposition Temp.** Decomposes at high temperatures.

**Precautions in connection with Fire** Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.

**6. Accidental release measures**

**Spills & Disposal** Do not contaminate. Keep combustibles (wood, paper, clothing, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to knock down vapours or divert vapour clouds. Prevent entry into waterways, drains or confined areas. Prevent exposure to heat.  
Dry Spill  
Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area.  
Small Liquid Spill  
Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a loosely-covered container for later disposal.  
Large Liquid Spill  
SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

**Personal Precautions** Use personal protective equipment. Use in a well ventilated area. Avoid dust formation. Avoid breathing dusts, mist, vapours or gas. Evacuate personnel to safe areas.

**Personal Protection** Wear protective clothing specified for normal operations (see Section 8)

**7. Handling and storage**



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<b>Precautions for Safe Handling</b>	Avoid ingestion or inhalation of dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Minimize dust generation and accumulation. Use only in a chemical fume hood. Ensure good ventilation at the workplace. Use only in a well-ventilated area. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Wear suitable protective clothing. Remove all soiled and contaminated clothing immediately. Wash thoroughly after handling. Keep away from foodstuffs, beverages and feed. Keep away from incompatibles such as reducing agents, flammable, organic or combustible material. Keep away from heat and all sources of ignition. Ground all equipment containing material. Empty containers pose a fire risk, evaporate the residue under a fume hood.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in suitable, labelled, tightly closed containers, in a cool, dry, well-ventilated area away from incompatible substances. Hygroscopic. Keep well closed and protected from direct sunlight and moisture. Separate from acids, alkalis, reducing agents, flammable substances and combustibles materials. Store away from heat, and from sources of ignition (sparks, and open flame). Avoid any dust build-up by frequent cleaning and suitable construction of storage area. Keep storage separated from work areas. Inspect periodically for deficiencies such as damage or leaks.
<b>Storage Regulations</b>	Refer Australian Standard AS 4326-1995 'The storage and handling of oxidizing agents'.
<b>Storage Temperatures</b>	Store at room temperature (15 to 25 °C recommended).

**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 Safe Work Australia for this product. There is a blanket limit of 10 mg/m <sup>3</sup> for dusts 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.
<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>	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
<b>Body Protection</b>	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>	Colourless to off-white, or white crystalline powder or crystals.
<b>Odour</b>	Odourless.
<b>Decomposition Temperature</b>	Decomposes at high temperatures.
<b>Melting Point</b>	414 °C
<b>Solubility in Water</b>	Soluble (150 g/l at 20 °C).
<b>Solubility in Organic Solvents</b>	Soluble in acetone; slightly soluble in alcohol.
<b>Specific Gravity</b>	3.68
<b>Flammability</b>	May be combustible at high temperature. Strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Fire-promoting.



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**Explosion Properties** Inorganic nitrates act as oxygen carriers which may cause a fire or explosion if in contact with reducing agents or inorganic matter.  
A mixture of aluminium powder + water + metal nitrate may explode.  
Mixtures of metal nitrates with alkyl esters may explode.  
Mixtures of a nitrate with phosphorous, Tin (II) chloride or other reducing agents may react explosively.

**Molecular Weight** 194.91

**Oxidising Properties** Strong oxidiser.

**10. Stability and reactivity**

**Chemical Stability** Stable under normal conditions, temperatures and pressures, but hygroscopic. Oxidizer. Fire-promoting.

**Conditions to Avoid** Moisture/water, high temperatures, ignition sources, dust generation, combustible materials, organic materials, reducing agents and incompatible materials.

**Incompatible Materials** Strong reducing agents, easily oxidized materials, alcohols, aluminium, alkyl esters, phosphinates + heat, nitrites, nitrates, organic matter, cyanides (e.g. potassium cyanide, sodium cyanide), thiocyanates, isothiocyanates, hypophosphites, moisture and combustible materials.

**Hazardous Decomposition Products** Irritating and highly toxic gases, including oxides of nitrogen and cesium oxide fumes.

**Possibility of hazardous reactions** Reacts with reducing agents.  
Reacts with flammable substances.  
Reactive with reducing agents, organic materials.  
Reaction with aluminium powder + water may be explosive.  
Reacts with acids.

**Hazardous Polymerization** Will not occur.

**11. Toxicological Information**

**Ingestion** May be harmful if swallowed. May cause digestive tract irritation with nausea, vomiting, abdominal pain, and diarrhoea (possibly with blood). May cause gastrointestinal tract burns. Large amounts taken by mouth may have serious or even fatal effects. May affect the urinary system (proteinuria), blood (methaemoglobinaemia due to insufficient amount of oxygen in blood). Methaemoglobinaemia may affect behaviour (hyper-irritability, convulsions, spasms, seizures, general depression, headache, mental impairment, dizziness, weakness, fatigue, unconsciousness), respiration (dyspnoea), cardiovascular system (blood pressure elevation or lowering, tachycardia or bradycardia, abnormal ECG), and may cause cyanosis.

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation and respiratory tract problems such as shortness of breath, dyspnoea, pulmonary oedema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by oedema. May cause blood effects.

**Skin** May cause mechanical or mild to severe skin irritation and possible burns, resulting in redness and itching. May be harmful if absorbed through the skin.

**Eye** May cause eye irritation. May cause conjunctivitis. May cause permanent corneal opacification.

**Carcinogenicity** Nitrate or nitrite (ingested) under conditions that result in endogenous nitrosation is evaluated in the IARC Monographs (Vol. 94; in preparation) as Group 2A: Probably carcinogenic to humans.

**Reproductive Toxicity** Nitrates, nitrites & organic nitro compounds [resp/skin/oral]: human-reduced oxygen uptake causing oxygen debt, animal-testicular toxin, abortifacient (From: "Reproductive Hazards of the Workplace" by Linda M. Frazier, MD, MPH & Marvin L. Hage, MD).

**Chronic Effects** Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation. Repeated or prolonged exposure can cause damage to central nervous system (CNS) and can have blood and neuromuscular effects. Repeated ingestion of product may lead to weakness, general depression, headache and mental impairment. Chronic ingestion of cesium has been fatal to laboratory animals, possibly due to the replacement of potassium.

**Mutagenicity** Evidence of mutagenic effects.

**12. Ecological information**

**Ecological Information** No ecological problems are to be expected when the product is handled and used with due care and attention.

**Ecotoxicity** The following applies to nitrates in general: may contribute to the eutrophication of water supplies. Hazard for drinking water.



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<b>Environmental Protection</b>	Do not allow to enter waters, waste water, or soil!
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**13. Disposal considerations**

<b>Disposal Considerations</b>	Dispose 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 5.1 Oxidising Agents are incompatible in a placard load with any of the following: - Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and combustible liquids.
<b>U.N. Number</b>	1451
<b>UN proper shipping name</b>	CAESIUM NITRATE
<b>Transport hazard class(es)</b>	5.1
<b>Hazchem Code</b>	1[Z]
<b>Packaging Method</b>	3.8.5.1
<b>Packing Group</b>	III
<b>Storage and Transport</b>	Not usually shipped in large quantities.
<b>EPG Number</b>	5A1
<b>IERG Number</b>	31

**15. Regulatory information**

<b>Regulatory Information</b>	Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
<b>Poisons Schedule</b>	Not Scheduled
<b>Hazard Category</b>	Irritant, Oxidising

**16. Other Information**

<b>Literature References</b>	'Standard for the Uniform Scheduling of Medicines and Poisons No. 15', Commonwealth of Australia, November 2016. 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]'.
<b>Contact Person/Point</b>	Paul McCarthy Ph. (08) 8440 2000 <b>DISCLAIMER STATEMENT:</b> 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.

<b>Empirical Formula &amp; Structural Formula</b>	CsNO <sub>3</sub>
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# Safety Data Sheet

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