

Safety Data Sheet **CADMIUM SULFATE 8/3 Hydrate**

SDS no. 1ZA5DCZV • Version 1.0 • Date of issue: 2025-12-23

SECTION 1: Identification

GHS Product identifier

Product name CADMIUM SULFATE 8/3 Hydrate

Recommended use of the chemical and restrictions on use

Pigments, fluorescent screens, electrolyte in Weston standard cell, electroplating, photography, manufacture of phosphorus and laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Dangerous Goods of Class 6 (Toxic and Infectious Substances) are incompatible in a placard load with any of the following: Class 1, Class 3, if the Class 3 dangerous goods are nitromethane, Class 8, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids; and are incompatible with food and food packaging in any quantity.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, inhalation, Cat. 1
- Acute toxicity, oral, Cat. 3
- Acute toxicity, dermal, Cat. 4
- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1
- Carcinogenicity, Cat. 1B
- Germ cell mutagenicity, Cat. 1B
- Toxic to reproduction, Cat. 1B
- Specific target organ toxicity following repeated exposure, Cat. 1

GHS label elements, including precautionary statements

Pictograms

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Signal word

Danger

Hazard statement(s)

H301	Toxic if swallowed
H312	Harmful in contact with skin
H330	Fatal if inhaled
H340	May cause genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician
P302+P352	IF ON SKIN: Wash with plenty of water/soap
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight	256.52
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Component	Identification	Weight %	Classifications
Cadmium sulfate octahydrate	CAS no.: 7790-84-3	<= 100 %	CLASSIFICATIONS: Carcinogenicity, Cat. 1B; Germ cell mutagenicity, Cat. 1B; Reproductive toxicity, Cat. 1B; Specific target organ toxicity, repeated exposure, Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Acute toxicity, inhalation, Cat. 1; Acute toxicity, oral, Cat. 3; Acute toxicity, dermal, Cat. 4. HAZARDS: H301 - Toxic if swallowed; H312 - Harmful in contact with skin; H330 - Fatal if inhaled; H340 - May cause genetic defects [route]; H350 - May cause cancer [route]; H360 - May damage fertility or the unborn child [effect, route]; H372 - Causes damage to organs [organs] through prolonged or repeated

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Component	Identification	Weight %	Classifications
			exposure [route]; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects.

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).

First Aid Facilities: Maintain eyewash fountain in work area.

If inhaled

If inhaled, remove from contaminated area to fresh air immediately, avoid becoming a casualty. Make patient comfortable, keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discolouration), supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required.

In case of skin contact

Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical attention.

In case of eye contact

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.

If swallowed

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Small fire: Use dry chemical, CO₂ or water spray. If safe to do so, move undamaged containers from fire area.

Large fire: Use dry chemical, CO₂, foam or water spray - Do not use water jets.

Specific hazards arising from the chemical

Hazards from Combustion Products: May liberate toxic fumes in fire such as oxides of sulfur and cadmium.

Special protective actions for fire-fighters

Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

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enclosed rooms.

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

Environmental precautions

Very toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

Methods and materials for containment and cleaning up

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.

Prevent contamination of soil and water.

Very toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid substance contact and generation and inhalation of dust. Use local exhaust extraction. Avoid exposure - obtain special instructions before use.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed and dry, away from direct sunlight. Store at room temperature (15 - 25 °C). Keep locked up

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: (not specified)

Cadmium and compounds
(as cd)

AU/SWA (Australia): 0.01 mg/m³ TWA

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

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.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection

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: 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.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference

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should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/ NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance, such as physical state and colour	Crystals
Colour	Colourless or white
Odour	Odourless.
Odour threshold	
Melting point and freezing point	41.5 °C
Boiling point or initial boiling point and boiling range	Not determined
Flammability	Not flammable
Lower and upper explosion limit or lower and upper flammability limit	Not applicable
Flash point	Not Applicable
Auto-ignition temperature	Not Applicable
Decomposition temperature	Not determined
pH	pH 3 - 6 (5% solution)
Kinematic viscosity	Not applicable
Solubility	[Solubility in Water: Very soluble. Solubility in Organic Solvents: Insoluble in alcohol. Almost insoluble in ethyl acetate.
Partition coefficient — n-octanol/ water (logarithmic value)	Not determined
Vapour pressure	Not determined
Density and relative density	Specific Gravity: 3.1
Relative vapour density	Not determined
Particle characteristics	Not determined

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Store at room temperature (15 - 25 °C).

Possibility of hazardous reactions

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Violent reaction with aluminium and magnesium.

Conditions to avoid

Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials

Strong oxidising agents, and metals (Aluminium and magnesium).

Hazardous decomposition products

Oxides of sulfur and cadmium.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Toxicology Information: Pregnant women must not be exposed to this product.

Acute Toxicity - Oral: LD50 (rat): 107 mg/kg.

Ingestion: Toxic if swallowed. May cause gastrointestinal irritation, nausea, salivation, vomiting, diarrhea and abdominal pain. Causes damage to the liver and kidneys. Ingestion usually induces a strong emetic action which minimises the risk of fatal poisoning. After absorption, symptoms may include changes in the blood picture and spasms.

Inhalation: May cause cancer by inhalation. Symptoms coughing and dyspnoea. After a latency period symptoms include pulmonary oedema with fever. Fatal concentrations may be breathed without sufficient discomfort to warn to exposed person. Long-term exposure to the chemical results in toxic effect on kidneys, lungs and bones. The following applies to cadmium compounds in general: mucosal irritations, coughing and dyspnoea after inhalation. Inhalation may lead to the formation of oedemas in the respiratory tract. There is a toxic effect on the gastrointestinal tract.

Skin corrosion/irritation

Harmful in contact the skin.

Serious eye damage/irritation

May cause irritation.

Respiratory or skin sensitization

Not classified based on available information.

Germ cell mutagenicity

Germ cell mutagenicity: Germ Cell Mutagenicity: Category 1B

H340 May cause genetic defects.

Carcinogenicity

Cadmium [7440-43-9] and cadmium compounds (NB: Evaluated as a group) are evaluated in the IARC Monographs (Vol. 58; 1993) as Group 1: Carcinogenic to humans.

Carcinogenicity: Category 1B

H350 May cause cancer.

Reproductive toxicity

Toxic to Reproduction: Category 1B

H360 May damage fertility or the unborn child.

Specific target organ toxicity (STOT) - single exposure

Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure

Specific target organ toxicity - Repeated Exposure Category 1

H372 Causes damage to organs through prolonged or repeated exposure.

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Aspiration hazard

Not classified based on available information.

Additional information

Chronic Effects: Acute inhalation exposure to cadmium fumes may cause 'metal fume fever' with flu-like symptoms of weakness, fever, headache, chills, nausea, vomiting, dizziness, sweating, muscular pain, cough and difficulty breathing. Acute pulmonary oedema may develop with 24 hours and reaches a maximum by three days. The first chronic effect of exposure to cadmium is generally kidney damage, manifested by excretion of excessive protein in the urine, followed by anemia, teeth discoloration, and loss of smell. Cadmium also is believed to cause pulmonary emphysema and bone disease.

SECTION 12: Ecological information

Toxicity

Known Harmful Effects on the Environment: Very toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

Other adverse effects

The following applies to cadmium compounds in general: Hazard for drinking water.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 2570

Class: 6.1

Packing Group: III

Proper Shipping Name: CADMIUM COMPOUND (Cadmium Sulphate Hydrate)

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 2570

Class: 6.1

Packing Group: III

Proper Shipping Name: CADMIUM COMPOUND (Cadmium Sulphate Hydrate)

IATA

UN Number: 2570

Class: 6.1

Packing Group: III

Proper Shipping Name: CADMIUM COMPOUND (Cadmium Sulphate Hydrate)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

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Poison Schedule: S6

SECTION 16: Other information

Further information/disclaimer

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Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)