
SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 172.17

Components

Component	CAS no.	Concentration
Calcium Sulfate dihydrate	10101-41-4	98 - 100 % (weight)
CLASSIFICATIONS: No data available. HAZARDS: No data available.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled	Remove victim to fresh air. Employ artificial respiration if indicated. Seek medical attention.
In case of skin contact	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If irritation occurs seek medical advice.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical advice if effects persist.
If swallowed	Rinse mouth thoroughly with water immediately. Seek medical advice if effects persist.

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

Drinking glycerin, gelatin solutions or large volumes of water may delay the hardening of calcium sulfate in the stomach. Surgical relief of obstruction, particularly at the pylorus, may be 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

Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam

Specific hazards arising from the chemical

Fire will produce toxic gases. Runoff may pollute waterways.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms. Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin, eyes and clothing. Wash hands and face thoroughly after working with material.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place. Keep containers closed at all times. Store away from incompatible substances.

SECTION 8: Exposure controls/personal protection

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.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

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

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.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White powder, crystals or granules.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	1450 °C
Boiling point or initial boiling point and boiling range	Loses 1.5 waters at 128 °C. Becomes anhydrous at 163 °C.
Flammability	No data available.

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Lower and upper explosion limit/flammability limit
Flash point
Explosive properties
Auto-ignition temperature
Decomposition temperature
Oxidizing properties
pH

No data available.
No data available.
No data available.
No data available.
No data available.
No data available.
5.0-7.5 (0.01 M, H₂O, 25 °C); ~ 7.0 (200 g/l, H₂O, 20 °C, slurry, hemihydrate); pH value of 20% aqueous suspensions is 6 to 7.6.

Kinematic viscosity
Solubility

No data available.
Solubility in Water: Slightly soluble in water (0.8 g/L @ 20 °C, hemihydrate); Slightly soluble (2 g/L @ 20 °C, dihydrate); Slightly soluble (2 g/L @ 25 °C, anhydrous). Solubility in Organic Solvents: Soluble in ammonium salts, acids, glycerin and sodium thiosulfate. Very slowly soluble in glycerol. Practically insoluble in most organic solvents.

Partition coefficient n-octanol/water (log value)
Vapor pressure
Evaporation rate
Density and/or relative density

No data available.
No data available.
No data available.
Specific Gravity: 2.96 g/cm³ (anhydrous, hemihydrate); 2.32 g/cm³ (dihydrate).

Relative vapor density
Particle characteristics

No data available.
No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Other Information: Taste: Tasteless
Refraction index: 1.505

SECTION 10: Stability and reactivity

Reactivity

None under normal use conditions.

Chemical stability

Stable.

Possibility of hazardous reactions

Reduction of calcium sulfate by aluminum at high temperature may cause violent explosion. Diazomethane vapour contacting calcium sulfate generates heat which can lead to detonation.

Hazardous Polymerization: Will not occur.

Conditions to avoid

Exposure to moisture.

Incompatible materials

Aluminum, diazomethane and phosphorous. Water, acids, aluminium, strong oxidizing agents, diazomethane and phosphorous.

Hazardous decomposition products

Sulfur oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: In the presence of water (or moisture), the material hardens quickly, which may result in obstruction in stomach. Symptoms include stomach pain and distress.

Inhalation: Causes irritation to mucous membrane and respiratory tract. Symptoms may include of coughing sneezing, shortness of breath.

Skin corrosion/irritation

If absorbed through skin, may cause irritation, redness and pain.

Serious eye damage/irritation

May cause irritation, redness and pain.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Long-term exposures to high concentrations of dust may cause increased mucous flow in the nose and airways. This condition usually disappears after exposure ceases. Repeated or prolonged exposure to massive concentrations of dust may cause lung injury by obstruction as well as impaired sense of smell and taste and bleeding nose.

WARNING - DO NOT attempt to make an enclosed cast of any body parts such as hands or fingers. This product when mixed with water releases heat, which may result in serious skin burns if used for casting body parts. If this product is repackaged by distributors, this warning must be repeated on any new packaging. (Hemihydrate)

SECTION 12: Ecological information

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Toxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No mobility data available for this product.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

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.

Waste treatment

Disposal by secure landfill may be acceptable.

Other disposal recommendations

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

SECTION 14: Transport information

ADG (Road and Rail)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

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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)