

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 16.09.2014

Revision: 16.09.2014

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· 1.1 Product identifier

· **Trade name:** CALCIUM CHLORIDE

· **CAS Number:**

10043-52-4

10035-04-08: dihydrate

· **EC number:**

233-140-8

· **Index number:**

017-013-00-2

· **Registration number** 01-2119494219-28

· 1.2 Relevant identified uses of the substance or mixture and uses advised against

As brine for refrigeration plants; ice and dust control on roads; in cement production; in chemical synthesis; in washing and cleaning products; in fertiliser formulations; in absorbants; in water treatment products; in products such as ph-regulators, flocculants, precipitants, neutralisation agents; as a laboratory reagent; in the manufacture of textiles, leather, fur; in the manufacture of non-metallic mineral products, e.g. plasters, cement; in the manufacture of pulp, paper and paper products; in the manufacture of plastics and rubber products; in the manufacture of basic metals, including alloys; in mining; in the manufacture of wood and wood products; in the manufacture of computer, electronic and optical products, electrical equipment.

· **Sector of Use**

SU0 Other

SU1 Agriculture, forestry, fishery

SU2a Mining, (without offshore industries)

SU2b Offshore industries

SU4 Manufacture of food products

SU5 Manufacture of textiles, leather, fur

SU6a Manufacture of wood and wood products

SU6b Manufacture of pulp, paper and paper products

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU11 Manufacture of rubber products

SU12 Manufacture of plastics products, including compounding and conversion

SU13 Manufacture of other non-metallic mineral products, e.g. plasters, cement

SU14 Manufacture of basic metals, including alloys

SU15 Manufacture of fabricated metal products, except machinery and equipment

SU16 Manufacture of computer, electronic and optical products, electrical equipment

SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment

SU19 Building and construction work

SU20 Health services

· **Product category**

PC0 Other

PC2 Adsorbents

PC4 Anti-Freeze and de-icing products

PC12 Fertilisers

PC16 Heat transfer fluids

PC19 Intermediate

PC20 Products such as ph-regulators, flocculants, precipitants, neutralisation agents

PC21 Laboratory chemicals

PC27 Plant protection products

PC35 Washing and cleaning products (including solvent based products)

PC37 Water treatment chemicals

· **Process category**

PROC1 Use in closed process, no likelihood of exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC6 Calendering operations

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- PROC7 Industrial spraying
- PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
- PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
- PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
- PROC10 Roller application or brushing
- PROC11 Non industrial spraying
- PROC12 Use of blowing agents in manufacture of foam
- PROC13 Treatment of articles by dipping and pouring
- PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation
- PROC15 Use as laboratory reagent
- PROC19 Hand-mixing with intimate contact and only PPE available
- PROC20 Heat and pressure transfer fluids in dispersive, professional use but closed systems
- PROC22 Potentially closed processing operations with minerals/metals at elevated temperature - Industrial setting
- PROC23 Open processing and transfer operations with minerals/metals at elevated temperature
- PROC26 Handling of solid inorganic substances at ambient temperature
- PROC27a Production of metal powders (hot processes)
- PROC27b Production of metal powders (wet processes)

- **Environmental release category**

- ERC1 Manufacture of substances
- ERC2 Formulation of preparations
- ERC4 Industrial use of processing aids in processes and products, not becoming part of articles
- ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
- ERC8a Wide dispersive indoor use of processing aids in open systems
- ERC8d Wide dispersive outdoor use of processing aids in open systems

- **Article category**

- AC0 Other
- AC8 Paper articles

- **Application of the substance / the mixture**

The substance has many industrial, professional and consumer applications.

- **1.3 Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

Daltrade Chemicals
 94 Hailgate
 Howden
 Nr. Goole
 East Yorkshire
 DN14 7SZ
 Tel: 01430 430041
 Fax: 01430 430477
 E-Mail: info@daltrade.co.uk

- **Further information obtainable from:** Product safety department.

- **1.4 Emergency telephone number:** Tel: 01430 430041 (not 24 hours)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

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- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R36: Irritating to eyes.

- **Information concerning particular hazards for human and environment:** Not applicable.

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms** GHS07

- **Signal word** Warning

- **Hazard statements**

H319 Causes serious eye irritation.

- **Precautionary statements**

P260 Do not breathe dust.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

P401 Store in accordance with local/regional/national/international regulations.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**

- **CAS No. Description**

10043-52-4: Calcium chloride (anhydrous)

10035-04-08: Calcium chloride (dihydrate)

- **Identification number(s)**

- **EC number:** 233-140-8

- **Index number:** 017-013-00-2

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

- **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

Check for and remove any contact lenses.

- **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

- **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Information for doctor:** Treat symptomatically and supportively.

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- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Non-combustible solid.
Freely soluble in water.
Hygroscopic.
Aqueous solution reacts alkaline.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Do not allow to penetrate the ground/soil.
- **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Prevent formation of dust.
Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Prevent any seepage into the ground.
Unsuitable materials: Ferritic steels -danger of pitting corrosion.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from humidity and water.
- **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:** Not required.

- **DNELs**

Workers

Acute / short-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 10 mg/m³

Long-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 5 mg/m³

General population

Acute / short-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 5 mg/m³

Long-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 2.5 mg/m³

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

- **General protective and hygienic measures:**

Do not breath dust

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid close or long term contact with the skin.

Do not eat, drink, smoke or sniff while working.

Ensure that eyewash stations and safety showers are close to the workstation location.

- **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Wear suitable chemical resistant protective gloves for frequent or prolonged operations tested to EN374 with an acceptable permeation test. Suitable materials include neoprene (chloroprene), PVC and nitrile rubber.

Contaminated gloves should be carefully rinsed with water before reuse.

Non suitable materials: Leather gloves.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

Most materials for protective goggles and face visors will probably be suitable eg. polycarbonate.

- **Body protection:**

Protective work clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Solid

Colour: White

- **Odour:** Odourless

- **Odour threshold:** Not determined.

- **pH-value (100 g/l) at 20 °C:** 8-10

- **Change in condition**

Melting point/Melting range: 782 °C

Boiling point/Boiling range: 1601 °C

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Product is not flammable.

- **Ignition temperature:**

Decomposition temperature: Not determined.

- **Self-igniting:** Not determined.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

- **Vapour pressure:** Not applicable.

- **Density at 20 °C:** 2.15 g/cm³

- **Relative density** Not determined.

- **Vapour density** Not applicable.

- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with water at 20 °C:** 740 g/l

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

- **9.2 Other information** No further relevant information available.

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SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
The substance decomposes on heating at high temperature and on burning producing toxic and corrosive fumes.
- **10.3 Possibility of hazardous reactions**
The solution in water is a weak base. Attacks zinc in presence of water forming highly flammable hydrogen gas.
Dissolves violently in water with liberation of much heat.
Calcium chloride liquors can cause pitting of and corrosion of some grades of stainless steel and under high temperature and stress conditions can promote stress corrosion cracking.
The substance can react dangerously with: bromine trifluoride; boron trioxide + calcium oxide; zinc -> hydrogen.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Hydrogen chloride (HCl)
- **Additional information:**
Non-combustible solid.
Freely soluble in water.
Hygroscopic.
Aqueous solution reacts alkaline.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **Acute toxicity:**
- | · LD/LC50 values relevant for classification: | | |
|--|----------|----------------------|
| 10043-52-4 Calcium chloride | | |
| Oral | LD50 | >2000 mg/kg (rat) |
| Dermal | LD50 | >5000 mg/kg (rabbit) |
| Inhalative | LC50/4 h | >160 mg/l (rat) |
- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** Irritating effect.
 - **Sensitisation:** No sensitising effects known.
 - **Subacute to chronic toxicity:**
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the nasal mucous membrane, resulting in ulcerations.
 - **Additional toxicological information:**
ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its solution aerosol.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Recommended Hierarchy of Controls:
 - Minimise waste;
 - Reuse if not contaminated;
 - Recycle, if possible; or
 - Safe disposal (if all else fails).
 Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **European waste catalogue**
Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|--|
| · 14.1 UN-Number | Void |
| · ADR, ADN | Void |
| · IMDG, IATA | Void |
| · 14.2 UN proper shipping name | n/a |
| · ADN | Void |
| · IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | n/a |
| · ADN/R Class: | Void |
| · 14.4 Packing group | n/a |
| · IMDG, IATA | Void |
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | - |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department.

· **Abbreviations and acronyms:**

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

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