

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

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

- **1.1 Product identifier**
- **Molecular formula:** Ca Cl₂ H₄O₂
- **Structure formula:** Ca Cl₂ · 2 H₂ O
- **Trade name:** Calcium chloride dihydrate
- **SDS number:** CH2293
- **CAS Number:**
10035-04-8
- **EC number:**
233-140-8
- **Registration number** 01-2119494219-28
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Life cycle stages**
IS Use at industrial Sites
F Formulation or re-packing
- **Sector of Use**
SU9 Manufacture of fine chemicals
SU24 Scientific research and development
- **Product category**
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC40 Extraction agents
- **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC6 Calendering operations
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
PROC23 Open processing and transfer operations at substantially elevated temperature
- **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of intermediate
- **Application of the substance / the mixture** Chemicals products for laboratory
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
CARLO ERBA REAGENTS
Chaussée du Vexin
Parc d'Affaires des Portes - BP616
27106 VAL DE REUIL Cedex
Téléphone: +33 (0)2 32 09 20 00
Télécopie: +33 (0)2 32 09 20 20

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 1)

· **Further information obtainable from:**

Q.A / Normative

email: MSDS_CER-SDS@cer.dgroup.it

· **1.4 Emergency telephone number:**

Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)

EU Tel : 112

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

· **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**

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

· **Precautionary statements**

P264 Wash contaminated body parts thoroughly after handling.

P280 Wear eye protection / face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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.

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 Substances**

· **CAS No. Description**

CAS: 10035-04-8 Calcium chloride dihydrate

(Contd. on page 3)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 2)

- **Identification number(s)**
- **EC number: 233-140-8**

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Seek immediate medical advice.
- **After inhalation:** Supply fresh air; consult a doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
Seek immediate medical advice.
- **After swallowing:** Do NOT induce vomiting.
- **Information for doctor:** Show the doctor this Material Safety Data Sheet.
- **4.2 Most important symptoms and effects, both acute and delayed** Gastric or intestinal disorders
- **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 extinguishing systems are compatible with the local situation and the environment.
Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** Hydrogen chloride (HCl)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device for fire fighting if necessary.
Do not inhale gases in case of fire or combustion.
- **Additional information** Keep receptacles cool with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure good ventilation/exhaustion at the workplace.
Avoid formation of dust and aerosols.
If dust is formed, use personal protective equipment.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course.
- **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable containers.
Provide suction extractors if dust is formed.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.

(Contd. on page 4)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

(Contd. of page 3)

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

Provide suction extractors if dust is formed.

· **Information about fire - and explosion protection:** The product is not flammable.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Unsuitable material for receptacle: aluminium.

Use polyethylene receptacles.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** None.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:** TLV not established.

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Avoid contact with the eyes.

· **Respiratory protection:**

Use suitable respiratory protective device only when aerosol or mist is formed.

The selected respiratory protection must comply with standard EN 136/140/143/145/149.

· **Hand protection**

The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.

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

Thin, disposable gloves in PVC or PE

Rubber 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.

Rubber gloves

Thin, disposable gloves in PVC or PE

· **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.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Thin, disposable gloves in PVC or PE

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 4)

- **For the permanent contact gloves made of the following materials are suitable:**
Thin, disposable gloves in PVC or PE
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Thin, disposable gloves in PVC or PE
- **As protection from splashes gloves made of the following materials are suitable:**
Thin, disposable gloves in PVC or PE
- **Not suitable are gloves made of the following materials:** Thin, disposable gloves in PVC or PE
- **Eye/face protection**



Tightly sealed goggles

- **Environmental exposure controls**
In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- **Risk management measures** Keep good industrial hygiene.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Molecular weight** 147.02 g
- **Physical state** Solid
- **Colour:** White
- **Odour:** Odourless
- **Odour threshold:** Not determined.
- **Melting point/freezing point:** 176 °C
- **Boiling point or initial boiling point and boiling range** Undetermined.
- **Flammability** Product is not flammable.
- **Lower and upper explosion limit**
- **Lower:** Not determined.
- **Upper:** Not determined.
- **Flash point:** Not applicable.
- **Decomposition temperature:** Not determined.
- **pH** 5-8
- **Viscosity:**
- **Kinematic viscosity** Not applicable.
- **Dynamic:** Not applicable.
- **Solubility**
- **water at 20 °C:** 147 g/l
- **organic solvents:** Soluble in alcohols.
- **Partition coefficient n-octanol/water (log value)** Not determined.
- **Vapour pressure at 20 °C:** 0.01 hPa
- **Vapour pressure (2):**
- **Density and/or relative density**
- **Density at 20 °C:** 1.85 g/cm³
- **Relative density** Not determined.
- **Vapour density** Not applicable.
- **Particle characteristics** See section 3.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 5)

- **9.2 Other information**
- **Appearance:**
- **Form:** Crystalline
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Not determined.
- **Explosive properties:** Product does not present an explosion hazard.
- **Change in condition**
- **Evaporation rate** Not applicable.

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Void
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** See 10.3
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Metals
- **10.6 Hazardous decomposition products:** Hydrogen chloride (HCl)

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

| | | |
|------|------|-------------------|
| Oral | LD50 | 1,000 mg/kg (rat) |
|------|------|-------------------|

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Strong irritant with the danger of severe eye injury.
Causes serious eye irritation.
- **Ingestion:** Harmful if swallowed.

(Contd. on page 7)

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 6)

- **Inhalation:** May be harmful if inhaled.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Other information (about experimental toxicology):** No further relevant information available.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** Foreseeable as non relevant.
- **12.2 Persistence and degradability** No further relevant information available.
- **Method**
- **Ecological information** Not available
- **Other information:** No available data.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:** Not hazardous for water.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system. Reutilise if possible or contact a waste processors for recycling or safe disposal.
- **Waste disposal key:**
The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste. 2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC. Directive 2008/98/EC of the european parliament and of the council of 18 November 2008, in ist latest valid version.

- **European waste catalogue**

| | |
|-----|---|
| HP4 | Irritant - skin irritation and eye damage |
| HP6 | Acute Toxicity |

- **Uncleaned packaging:**
The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products. Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 7)

· Recommendation:

Disposal must be made according to official regulations.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR/RID, ADN, IMDG, IATA Void

· 14.2 UN proper shipping name

· ADR/RID, ADN, IMDG, IATA Void

· 14.3 Transport hazard class(es)

· ADR/RID, ADN, IMDG, IATA
· Class Void

· 14.4 Packing group

· ADR/RID, IMDG, IATA Void

· 14.5 Environmental hazards:

· Marine pollutant: No

· 14.6 Special precautions for user

Not applicable.

· 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

· UN "Model Regulation":

Void

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

· SARA Section 355 (extremely hazardous substances) Substance is not listed.

· SARA Section 313 (specific toxic chemical listings) Substance is not listed.

· Prop 65 - Chemicals known to cause cancer Substance is not listed.

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I Substance is not listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP) Substance is not listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV) Substance is not listed.

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

Substance is not listed.

· National regulations:

· Waterhazard class: Generally not hazardous for water.

· Other regulations, limitations and prohibitive regulations

· Substances of very high concern (SVHC) according to REACH, Article 57 Substance is not listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has 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 SDS: Q.A./Normative

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 8)

· **Date of previous version:** 07.04.2021

· **Version number of previous version:** 15

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

RCR : Risk Characterisation Ratio

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

IMO : International Maritime Organization

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

· **Sources**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in the latest valid version.

Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.

Globally Harmonized System, GHS

ADR/RID, IMDG, IATA

PubChem : an open chemistry database at the National Institutes of Health (NIH)

ECHA : European CHEmicals Agency

GESTIS : Information system on hazardous substances of the German Social Accident Insurance

· *** Data compared to the previous version altered. .**

EU

(Contd. on page 10)

Safety data sheet
 according to 1907/2006/EC, Article 31

Printing date 14.04.2023

Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 9)

Annex: Exposure scenario

- **Short title of the exposure scenario** Formulation or re-packing
- **Sector of Use** Industrial use.
- **Process category**
 - PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
 - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 - PROC5 Mixing or blending in batch processes
 - PROC6 Calendering operations
 - PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 - PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 - PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 - PROC14 Tableting, compression, extrusion, pelletisation, granulation
 - PROC15 Use as laboratory reagent
- **Environmental release category** ERC2 Formulation into mixture
- **Description of the activities / processes covered in the Exposure Scenario**
 See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
 The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Crystalline
- **Concentration of the substance in the mixture** Raw material.
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**
 Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Other operational conditions affecting worker exposure** Avoid contact with eyes.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
 Keep good industrial hygiene.
 Ensure that activities are executed by specialists or authorised personnel only.
 Provide sufficient washing facilities.
 Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product.
- **Technical protective measures**
 Ensure good ventilation/exhaustion at the workplace.
 Any unavoidable deposit of dust must be regularly removed.
- **Personal protective measures**
 Do not inhale dust / smoke / mist.
 Avoid contact with the eyes.
 The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
 Thin, disposable gloves in PVC or PE
 Rubber gloves
 Tightly sealed goggles
 The usual precautionary measures are to be adhered to when handling chemicals.

(Contd. on page 11)

Safety data sheet
according to 1907/2006/EC, Article 31

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Version number 16 (replaces version 15)

Revision: 14.04.2023

Trade name: Calcium chloride dihydrate

(Contd. of page 10)

Detailed measures on hand protection according to Safety Data Sheet, section 8.

Use suitable respiratory protective device only when aerosol or mist is formed.

The selected respiratory protection must comply with standard EN 136/140/143/145/149.

· **Environmental protection measures**

· **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· **Disposal measures** Ensure that waste is collected and contained.

· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging

· **Exposure estimation**

· **Worker (inhalation)** RCR 0.8

· **Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.

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