

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

1.1. Product identifier

Product form	: Substance
Substance name	: Calcium Formate
EC-No.	: 208-863-7
CAS-No.	: 544-17-2
Formula	: $C_2H_2CaO_4$

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

1.2.1. Relevant identified uses

Use of the substance/mixture	: Chemical raw material Chemical intermediate Paper production Construction
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Jost Chemical Co.
8150 Lackland Rd.
63114 Saint Louis, Missouri
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.jostchemical.com

Distributor

JOST CHEMICAL EUROPE SPRL
rue du Bois Portal n° 30/1-3
B - 5300 Andenne - BELGIQUE
T +32 85-552655 - F +32 85-552654
info@jostchemical.com

1.4. Emergency telephone number

Emergency number	: For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night United States and Canada: 1-800-424-9300 / +1 703-527-3887 Global: +1 703-741-5970
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures/Substances: SDS EU 2015: According to Regulation (EU) 2015/830 (REACH Annex II)

Serious eye damage/eye irritation, Category 1 H318

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H318 - Causes serious eye damage.

Precautionary statements (CLP)

: 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.
P310 - Immediately call a POISON CENTER or doctor.

2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

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Name	Product identifier	%
Calcium Formate	(CAS-No.) 544-17-2 (EC-No.) 208-863-7	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation

: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact

: Rinse with water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact

: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist.

First-aid measures after ingestion

: Rinse mouth with water. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation

: Coughing. Dry/sore throat.

Symptoms/effects after skin contact

: Not irritating.

Symptoms/effects after eye contact

: Corrosion of the eye tissue. Inflammation/damage of the eye tissue.

Symptoms/effects after ingestion

: No effects known.

Chronic symptoms

: No effects known.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

: Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting extinguisher, reel). Water. Class A foam.

Unsuitable extinguishing media

: Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Special hazards arising from the substance or mixture

Fire hazard

: DIRECT FIRE HAZARD: Non-flammable. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Heating increases the fire hazard.

Explosion hazard

: DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

Hazardous decomposition products in case of fire

: Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire

: Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions

: Cool tanks/drums with water spray/remove them into safety.

Protection during firefighting

: Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

: Avoid breathing dust, mist or spray. Avoid dust formation.

6.1.1. For non-emergency personnel

Protective equipment

: Gloves. Safety glasses. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.

Emergency procedures

: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

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Measures in case of dust release

: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. In case of dust production: stop engines and no smoking. In case of dust production: no naked flames or sparks. Dust: spark-/explosionproof appliances/lighting equipment.

6.1.2. For emergency responders

Protective equipment

: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment

: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Provide equipment/receptacles with earthing. Powdered form: no compressed air for pumping over spills.

Methods for cleaning up

: Stop dust cloud by humidifying. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information

: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Avoid raising dust. Take precautions against electrostatic charges. Keep away from naked flames/heat. In finely divided state: use spark-/explosion proof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use.

Hygiene measures

: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Store in a well-ventilated place. Keep cool.

Heat and ignition sources

: heat sources. Ignition sources.

Information on mixed storage

: oxidizing agents. (strong) acids.

Storage area

: Store in a dry area. Keep container in a well-ventilated place. Provide the tank with earthing. Keep out of direct sunlight. Meet the legal requirements.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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DNEL/DMEL (Workers)

Acute - systemic effects, dermal	4780 mg/kg bw/day
Acute - systemic effects, inhalation	337 mg/m ³
Acute - local effects, dermal	16.7 mg/cm ²
Long-term - systemic effects, dermal	4780 mg/kg bw/day
Long-term - local effects, dermal	16.7 mg/cm ²
Long-term - systemic effects, inhalation	337 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	2390 mg/kg bw/day
Acute - systemic effects, inhalation	83.2 mg/m ³
Acute - local effects, dermal	8.3 mg/cm ²
Long-term - systemic effects, oral	23.9 mg/kg bw/day
Long-term - systemic effects, inhalation	83.2 mg/m ³
Long-term - systemic effects, dermal	2390 mg/kg bw/day
Long-term - local effects, dermal	8.3 mg/cm ²

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PNEC (Water)

PNEC aqua (freshwater)	2 mg/l
PNEC aqua (marine water)	0.2 mg/l

PNEC (Sediment)

PNEC sediment (freshwater)	13.4 mg/kg dwt
PNEC sediment (marine water)	1.34 mg/kg dwt

PNEC (Soil)

PNEC soil	1.5 mg/kg dwt
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PNEC (STP)

PNEC sewage treatment plant	2.21 mg/l
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8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Eye fountain. Safety shower.

Personal protective equipment:

Dust production: dust mask with filter type P2. Gloves. Safety glasses. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Materials for protective clothing:

Wear suitable protective clothing, gloves and eye/face protection

Hand protection:

Impermeable protective gloves

Eye protection:

Safety glasses. In case of dust production: protective goggles

Skin and body protection:

Protective clothing

Respiratory protection:

Dust production: dust mask with filter type P1

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder.
Molecular mass	: 130.11 g/mol
Colour	: White to light yellow.
Odour	: Mild odour.
Odour threshold	: No data available
pH	: 6 - 7 (13 %)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: < 300 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: 292 °C

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Decomposition temperature	: 380 °C
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: 2
Density	: 2015 kg/m ³
Solubility	: Soluble in water. Water: 17 g/100ml
Log Pow	: -2.47 (Estimated value)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

9.2. Other information

VOC content	: 0 %
Other properties	: Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (strong) oxidizers.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

alkaline substances. Strong acids, strong oxidants. Hydrogen peroxide.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

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LD50 oral rat	2650 mg/kg (Equivalent or similar to OECD 401, Rat, Male/female, Weight of evidence)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male/female, Read-across)

Causes serious eye damage.	: Not classified (Based on available data, the classification criteria are not met) pH: 6 - 7 (13 %)
Serious eye damage/irritation	: Causes serious eye damage. pH: 6 - 7 (13 %)
Respiratory or skin sensitisation	: Not classified (Lack of data)
Germ cell mutagenicity	: Not classified (Lack of data)
Carcinogenicity	: Not classified (Lack of data)
Reproductive toxicity	: Not classified (Lack of data)
STOT-single exposure	: Not classified (Lack of data)
STOT-repeated exposure	: Not classified (Lack of data)
Aspiration hazard	: Not classified (Lack of data)
Potential adverse human health effects and symptoms	: Practically non-toxic if swallowed (LD50 oral 2000/5000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Not irritant to skin. Slightly harmful by inhalation. Causes serious eye damage.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	: Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Not harmful to crustacea. Not harmful to fishes. Inhibition of activated sludge. Not harmful to algae.
Dangerous for the environment	: Not classified
Chronic aquatic toxicity	: Not classified

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LC50 fish 1	> 1000 mg/l (Other, 96 h, Danio rerio, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	> 1000 mg/l (EPA 660/3 - 75/009, 48 h, Daphnia magna, Flow-through system, Fresh water, Read-across)
EC50 72h algae (1)	> 1000 mg/l (EPA 600/9-78-018, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across)

12.2. Persistence and degradability

Calcium Formate (544-17-2)

Persistence and degradability	Readily biodegradable in water.
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12.3. Bioaccumulative potential

Calcium Formate (544-17-2)

Log Pow	-2.47 (Estimated value)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Calcium Formate (544-17-2)

Log Koc	1.49 (log Koc, Read-across)
Ecology - soil	Highly mobile in soil.

12.5. Results of PBT and vPvB assessment

Component

Calcium Formate (544-17-2)	PBT: not yet assessed vPvB: not yet assessed
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12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: LWCA (the Netherlands): KGA category 03.
Product/Packaging disposal recommendations	: Remove waste in accordance with local and/or national regulations.

SECTION 14: Transport information

In accordance with ADN / ADR / IATA / IMDG

14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not regulated for transport
Proper Shipping Name (IMDG)	: Not regulated for transport
Proper Shipping Name (IATA)	: Not regulated for transport
Proper Shipping Name (ADN)	: Not regulated for transport

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: Not applicable
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IMDG

Transport hazard class(es) (IMDG)	: Not applicable
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IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Transport regulations (ADR) : Not subject

Transport by sea

Transport regulations (IMDG) : Not subject

Air transport

Transport regulations (IATA) : Not subject

Inland waterway transport

Transport regulations (ADN) : Not subject

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Calcium Formate is not on the REACH Candidate List

Calcium Formate is not on the REACH Annex XIV List

VOC content : 0 %

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian DSL (Domestic Substances List)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Not listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Not listed on the Korean ECL (Existing Chemicals List)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

Indication of changes:

Initial preparation date.

Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
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H318	Causes serious eye damage.
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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product