

Calcium Formate

Version number: 1.0

SECTION 1: Identification

1.1 Product identifier

Identification of the substance	calcium formate
Trade name	<u>Calcium Formate</u>
CAS number	544-17-2

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

Relevant identified uses	Additive in feedingstuffs Lubricant Cement additive
--------------------------	---

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC 179 Calle Magdalena Suite 100 Encinitas, California CA 92024 United States	Telephone: +1 (760) 635 8500 e-mail: info@valudor.com Website: www.valudor.com
---	--

1.4 Emergency telephone number

Emergency information	800-535-5053 (Infotrac)
-----------------------	-------------------------

As above or nearest toxicological information centre.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word	danger
-------------	--------

Calcium Formate

Version number: 1.0

Pictograms

GHS05



Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear 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/doctor.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance calcium formate

Identifiers

CAS No 544-17-2

Molecular formula C₂ H₂ Ca O₄

Molar mass 130.1 g/mol

Purity > 98%

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Self-protection of the first aider.

Remove affected person from the danger area and lay down.

Do not leave affected person unattended.

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Calcium Formate

Version number: 1.0

Following skin contact

Wash contaminated clothing before reuse.

Following eye contact

Rinse immediately carefully and thoroughly with eye shower or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Get immediate medical advice/attention.

Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

coordinate firefighting measures to the fire surroundings.

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO₂), gas/ vapor, toxic, irritant vapors / gases

5.3 Advice for firefighters

Non-combustible.

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, self-contained breathing apparatus (SCBA)

Calcium Formate

Version number: 1.0

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Control of dust.

Do not breathe dust.

Do not get in eyes, on skin, or on clothing.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Knock down dust with water spray.

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Collect spillage.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Removal of dust deposits.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

Calcium Formate

Version number: 1.0

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Remove contaminated clothing and protective equipment before entering eating areas.

Avoid breathing dust.

Do not get in eyes, on skin, or on clothing.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat

Consideration of other advice

These information are not available.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.

Store in a dry place.

Keep in a cool place.

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

No constituent of the product currently has a known exposure limit.

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Calcium Formate

Version number: 1.0

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	≥ 0,35 mm	>480 minutes (permeation: level 6)
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Protective clothing for use against solid particulates.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particulate filter device (EN 143).

P2 (filters at least 94 % of airborne particles, color code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state

solid
(powder)

Color

white

Odor

weak/faint
acetic acid odour

Odor threshold

not determined

Other safety parameters

pH (value)

not applicable

Calcium Formate

Version number: 1.0

Melting point/freezing point	>300 °C
Boiling point or initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	non-combustible
Explosive limits	not determined
Explosion limits of dust clouds	not determined
Vapor pressure	not determined
Density and/or relative density	
Density	2 g/cm ³ at 20 °C
Relative density	2.02 (water = 1)
Relative vapour density	not relevant (solid)
Solubility(ies)	
Water solubility	172 g/l at 20 °C (OECD Guideline 105)
Partition coefficient	
n-octanol/water (log KOW)	-2.1 (pH value: 7, 23 °C) -1.9 (pH value: 5, 23 °C) -2.3 (pH value: 9, 23 °C) (EU method A.8)
Soil organic carbon/water (log KOC)	1.49
Auto-ignition temperature	292 °C at 101.3 kPa (EU method A.16) (relative self-ignition temperature for solids)
Decomposition temperature	408 °C
Viscosity	not relevant (solid)
Explosive properties	none
Oxidizing properties	none
Information for relevant hazard classes according to GHS	hazard classes acc. to GHS (physical hazards): not relevant
9.2 Other information	
Surface tension	72 mN/m (20 °C, 1 g/l)

Calcium Formate

Version number: 1.0

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Control of dust.

10.5 Incompatible materials

acids, oxidizers, metal

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

Gas/ vapor, toxic.

Irritant vapors / gases.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic (dermal).

Exposure route	Endpoint	Value	Species	Method	Source
dermal	LD50	>2,000 mg/kg	rat	OECD Guideline 402	ECHA
inhalation: dust/ mist	LC0	>0.67 mg/l/4h	rat	EPA OTS 798.1150	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

(ECHA, OECD Guideline 404)

Calcium Formate

Version number: 1.0

Serious eye damage/eye irritation

Causes serious eye damage.

(ECHA, OECD Guideline 405)

Skin sensitization

Shall not be classified as a skin sensitizer.

(ECHA, OECD Guideline 406)

Respiratory sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

(ECHA, OECD Guideline 477, read-across)

Carcinogenicity

IARC Monographs

not listed

National Toxicology Program (United States)

not listed

OSHA Carcinogens

Not listed.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

(ECHA, OECD Guideline 414, OECD Guideline 416, read-across)

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Chronic toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	NOAEL	<600 mg/kg bw/ day	rat	OECD Guideline 408	ECHA

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Calcium Formate

Version number: 1.0

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
EC50	48 h	>1,000 mg/l	daphnia magna	EPA-660/3-75-009	ECHA
ErC50	72 h	>1,000 mg/l	algae (pseudokirchneriella subcapitata)	-	ECHA

Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
NOEC	21 d	100 mg/l	daphnia magna	OECD Guideline 211	ECHA
NOEC	72 h	500 mg/l	algae (pseudokirchneriella subcapitata)	-	ECHA
LOEC	21 d	>100 mg/l	daphnia magna	OECD Guideline 211	ECHA
growth rate (ErCx) 20%	72 h	807 mg/l	algae (pseudokirchneriella subcapitata)	-	ECHA

12.2 Persistence and degradability

Biodegradation

The substance is readily biodegradable.

Process of degradability				
Process	Degradation rate	Time	Method	Source
oxygen depletion	86 %	28 d	OECD Guideline 306	ECHA

Persistence

No data available.

Calcium Formate

Version number: 1.0

12.3 Bioaccumulative potential

n-octanol/water (log KOW)	-2.1 (pH value: 7, 23 °C) -1.9 (pH value: 5, 23 °C) -2.3 (pH value: 9, 23 °C) (EU method A.8)
----------------------------------	--

12.4 Mobility in soil

Henry's law constant	0.019 Pa m ³ /mol at 25 °C
The Organic Carbon normalised adsorption coefficient	1.49

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Remarks

None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number	not assigned
14.2 UN proper shipping name	-
14.3 Transport hazard class(es)	-
14.4 Packing group	-
14.5 Environmental hazards	-
14.6 Special precautions for user	-

Calcium Formate

Version number: 1.0

14.7 Transport in bulk according to IMO instruments

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information
Not subject to transport regulations.

SECTION 15: Regulatory information

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

National regulations (United States)

Toxic Substance Control Act (TSCA) Substance is listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

Not listed

Specific Toxic Chemical Listings (EPCRA Section 313)

Not listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Not listed

Clean Air Act

Not listed

Right to Know Hazardous Substance List

Toxic or Hazardous Substance List (MA-TURA)

Not listed

Hazardous Substances List (MN-ERTK)

Not listed

Hazardous Substance List (NJ-RTK)

Not listed

Hazardous Substance List (Chapter 323) (PA-RTK)

Not listed

Hazardous Substance List (RI-RTK)

Not listed

Calcium Formate

Version number: 1.0

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

Not listed

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2024-05-13

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IARC Monographs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
vPvB	Very Persistent and very Bioaccumulative

Calcium Formate

Version number: 1.0

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H318	Causes serious eye damage.

Responsible for the safety data sheet

Chemical Regulatory Compliance Com- Telephone: +1 (630) 410-1660
pany e-Mail: GHS@crc-us.com
Jasper, GA Website: www.crc-us.com
USA

Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.