

1. IDENTIFICATION

Product Name	Calcium formate
Other Names	No Data Available
Uses	Building materials, cement, glass, ceramics, tiles, mortar, putties, fillers; dyes, adhesives, sealants; processing aid, intermediate, pH regulator in chemical reactions; leather tanning; feed additive and fertiliser.
Chemical Family	No Data Available
Chemical Formula	Ca(HCOO) ₂
Chemical Name	Formic acid, calcium salt
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Serious Eye Damage/Irritation - Category 1

Pictograms



Signal Word Danger

Hazard Statements **H318** Causes serious eye damage.

Precautionary Statements

Prevention	P280	Wear eye protection/face protection.
Response	P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.1D	Substances that are acutely toxic - Harmful
		6.3B	Substances that are mildly irritating to the skin
		6.4A	Substances that are irritating to the eye
	Environmental Hazards	9.3C	Substances that are harmful to terrestrial vertebrates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Calcium formate	Ca(HCOO) ₂	544-17-2	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed IF SWALLOWED: Rinse mouth, then drink plenty of water. If a large amount has been ingested, get medical advice/attention.

Eye IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Centre or doctor/physician.

Skin IF ON SKIN (or hair): Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Inhaled IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing until fully recovered.

Remove contaminated clothing and loosen remaining clothing. If respiratory symptoms persist, get medical advice/attention.

Advice to Doctor

Treat symptomatically. Can cause corneal burns.

Medical Conditions Aggravated by Exposure

No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	This product does not burn or support combustion.
Extinguishing Media	Non-combustible; Use extinguishing media appropriate for surrounding fire. Do not use full water jet.
Fire and Explosion Hazard	No flammability, explosiveness or auto-inflammability properties.
Hazardous Products of Combustion	Decomposes on heating emitting irritating and toxic fumes, including oxides of Carbon and Calcium.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (fire kit).
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material - Slippery when spilt. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Use appropriate tools to collect the spilled material into a sealed container and hold for reuse or later disposal (see SECTION 13); If appropriate, moisten first to prevent dusting.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Cover to prevent dust formation.
Decontamination	Clean the affected area carefully with water.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. If contamination of sewers or waterways has occurred advise local emergency services.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid handling which leads to dust formation. Avoid breathing dust and contact with eyes, skin and clothing; Avoid prolonged or repeated exposure. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry, well ventilated place. Keep containers closed when not in use - check regularly for spills. Avoid physical damage. Protect from moisture. Keep away from high temperatures and incompatible materials (strong oxidising agents).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m ³ (measured as inhalable dust).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards.
Personal Protection Equipment	Respiratory protection: If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles. Hand protection: Handle with gloves. Recommended: Impervious gloves. Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder
Odour	Slightly acidic
Colour	White or yellowish-white
pH	6.0 - 7.5 (10% aqueous solution)
Vapour Pressure	0.00022 Pa [Calc.] (@ 25 °C)
Relative Vapour Density	No Data Available
Boiling Point	Decomposes before boiling
Melting Point	>300 °C
Freezing Point	No Data Available
Solubility	172 g/L water
Specific Gravity	2
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	1,000 ~ 1,200 kg/m ³
Corrosion Rate	No Data Available
Decomposition Temperature	408 °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	Log Pow: -2.6
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available

Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn.
Reactions That Release Gases or Vapours	Decomposes on heating emitting irritating and toxic fumes, including oxides of Carbon and Calcium.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No dangerous reactions known (under ambient and anticipated conditions of temperature and pressure).
Chemical Stability	Stable under ambient and anticipated conditions of temperature and pressure.
Conditions to Avoid	Avoid dust generation. Keep away from high temperatures. Protect from moisture.
Materials to Avoid	Incompatible/reactive with strong oxidising agents.
Hazardous Decomposition Products	Decomposes on heating emitting irritating and toxic fumes, including oxides of Carbon and Calcium.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Acute toxicity: No adverse effects expected, however, ingestion of large amounts may cause nausea and vomiting.</p> <p>Skin corrosion/irritation: No irritating effect. Repeated or prolonged skin contact may lead to irritation.</p> <p>Eye damage/irritation: Severe eye irritant; Causes serious eye damage. Contamination of eyes can result in permanent injury.</p> <p>Respiratory/skin sensitisation: Not a skin sensitiser.</p> <p>Germ cell mutagenicity: Not considered mutagenic.</p> <p>Carcinogenicity: Not listed as a suspected/confirmed carcinogen (IARC, NTP).</p> <p>Reproductive toxicity: No evidence of adverse effects on reproduction.</p> <p>STOT - single exposure: No experimental or epidemiological evidence for specific target organ toxicity (after a single exposure). Breathing in dust may result in respiratory irritation.</p> <p>STOT - repeated exposure: No experimental or epidemiological evidence for specific target organ toxicity.</p> <p>Aspiration toxicity: No information available.</p>
Acute	
Ingestion	<p>Acute toxicity (Oral):</p> <p>- LD50, Rat: 3,050 mg/kg [OECD 401].</p>
Inhalation	<p>Acute toxicity (Inhalation):</p> <p>- LC50, Rat: >0.67 mg/L (4 h).</p>
Other	<p>Acute toxicity (Dermal):</p> <p>- LD50, Rat: >2,000 mg/kg [OECD 402].</p>
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC0, Fish: >1,000 mg/L (48 h) - LC0, Fish: >1,000 mg/L (96 h) - EC50, Bacteria: >10,000 mg/L (3 h) This product is not regarded as dangerous for the environment.
Persistence/Degradability	This product is readily biodegradable. - BOD28: 86 % (-) [OECD 306]. - BOD28/COD: >75 % [OECD 301].
Mobility	The substance is not expected to adsorb (to a high degree) to suspended solids and sediment based on the log Koc, which indicates a moderate to high mobility in soil. - Log Koc: 1.49 (-)
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Does not bioaccumulate or biomagnify.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Refer to Waste Management Authority.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	CALCIUM FORMATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	CALCIUM FORMATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	CALCIUM FORMATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	CALCIUM FORMATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	CALCIUM FORMATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	CALCIUM FORMATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002800
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National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	CAFORM1000, CAFORM1001, CAFORM1002, CAFORM1003, CAFORM1004, CAFORM1005, CAFORM1006, CAFORM1007, CAFORM1008, CAFORM1009, CAFORM1010, CAFORM1020, CAFORM2000, CAFORM2001, CAFORM2500, CAFORM3000, CAFORM4000, CAFORM4100, CAFORM4400, CAFORM4500, CAFORM4800, CAFORM4900, CAFORM5000, CAFORM5001, CAFORM6000, CAFORM6100, CAFORM6150, CAFORM6500, CAFORM6600, CAFORM6700, CAFORM7000, CAFORM7500, CAFORM8000, CAFORM8001
Revision	3
Revision Date	04 Jun 2015
Key/Legend	< Less Than > Greater Than AICS Australian Inventory of Chemical Substances

atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO₂ Carbon Dioxide
COD Chemical Oxygen Demand
deg C (°C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (°F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH₂O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight