

# SAFETY DATA SHEET (SDS) (1272/2008/CE)



**Trade Name:**  
CALCIUM PROPIONATE

**Edition:** September 16, 2014  
**Version:** 6/en

## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY / UNDERTAKING

<b>Trade name</b>	<b>Calcium Propionate</b>		
<b>Synonyms</b>	Calcium propanoate; calcium propionate; propionic acid, calcium salt; propanoic acid, calcium salt		
<b>Recommended use and restriction on use</b>	Use as a preservative in food, feed and pharmaceutical applications. Use according to local regulations.		
<b>Company</b>	Macco Organiques Inc., 100 McArthur, Valleyfield, Qc, Canada, J6S 4M5		
<b>Responsible service</b>	Tel: (450) 371-1066 <a href="mailto:macco@macco.ca">macco@macco.ca</a>	Fax: (450) 371-5519 <a href="http://www.macco.ca">http://www.macco.ca</a>	
<b>Emergency phone numbers</b>	CANUTEC (613) 996-6666	CHEMTREC, U.S. (800) 424-9300	International (703) 527-3887

## 2. HAZARDS IDENTIFICATION

The substance is not classified as dangerous according to European Union (EU) directives 1272/2008, in replacement for 67/548/EEC including amendments and 1999/45/EC.

<b>Classification</b>	Not classified.
<b>Labeling type instruction</b>	This product does not require any labeling according to EU directives and regulations of the concerned country.
<b>Other hazards</b>	Combustible dust. May form explosive mixture with air.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

<b>Chemical name</b>	Calcium propionate 100%
<b>Synonyms</b>	Propionic acid, calcium salt; Calcium propanoate; calcium propionate; propanoic acid, calcium salt.
<b>Chemical formula</b>	$\text{Ca}(\text{C}_3\text{H}_5\text{O}_2)_2$
<b>CAS no.</b>	4075-81-4
<b>EEC (CE) no.</b>	E 282
<b>EINECS no.</b>	223-795-8

## 4. FIRST-AID MEASURES

### DESCRIPTION OF FIRST AID EMERGENCIES

<b>General advices</b>	In case of accident or illness, immediately get medical attention (show the label if possible). Show this safety data sheet to the physician. Remove and wash contaminated clothing before reusing.
<b>Inhalation</b>	If inhaled, move the person to fresh air. If not breathing, give artificial respiration. Get medical attention if any symptoms occur.
<b>Skin contact</b>	Rinse with water and wash with soap. Obtain medical attention if any symptoms occur.

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<b>Eye contact</b>	In case of contact with eyes, rinse immediately with plenty of water. Obtain medical attention if any symptoms occur.
<b>Ingestion</b>	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if any symptoms occur.
<b>POTENTIAL ACUTE HEALTH EFFECTS</b>	
<b>Inhalation</b>	Not considered to be toxic to humans.
<b>Ingestion</b>	Not considered to be toxic to humans.
<b>Skin</b>	Slightly irritant.
<b>Eyes</b>	Slightly irritant.
<b>Potential chronic health effect</b>	Carcinogenic effects: Not classified or listed by IARC, NTP, OSHA, EU and ACGIH. Mutagenic effects: No known significant effects. Teratogenic effects: No known significant effects.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training.
<b>Notes to physician</b>	No specific antidote. Medical staff must contact a Poisons Information Center.
<b>For more detailed information on health effects and symptoms, refer to section 11.</b>	

## 5. FIRE-FIGHTING MEASURES

### APPROPRIATE EXTINGUISHING MEDIA

<b>Suitable</b>	Carbon dioxide (CO <sub>2</sub> ) Water spray Foam Dry powder Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Special exposure hazards</b>	No specific hazard.
<b>Risks associated with thermal decomposition products</b>	Under fire conditions or above decomposition temperature, emits carbon monoxide, carbon dioxide and calcium oxide. Calcium propionate can burn if heated to decomposition.
<b>Other fire-fighting measures</b>	Fire residues and contaminated firefighting water must be disposed of according to local and national regulations.
<b>Special protective equipment</b>	Wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For individual protection equipment, refer to section 8.
<b>Special risks</b>	Calcium propionate can burn if heated to decomposition. Similar to dust of most combustible compounds, under certain conditions the airborne dust of this substance may explode when ignited by a spark, flame or other ignition sources. When evaluating the explosion hazard potential for the material, consider particle shape and size, dust concentration, presence of impurities, oxygen concentration, humidity and extent of containment.

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## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment. For individual protective equipment, refer to section 8.
<b>Environmental precautions</b>	Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.
<b>Cleaning methods</b>	If emergency personnel are unavailable, vacuum or carefully scoop up spilt material and place in an appropriate container for disposal. Avoid creating dusty conditions and prevent wind dispersal. Dispose of as special waste according to local and national regulations. Thoroughly clean the floor and objects contaminated by observing environmental regulations. Refer to section 7 for handling directives.

## 7. HANDLING AND STORAGE

<b>Handling directives</b>	Avoid dust formation during handling. DO NOT INGEST without prior transformation. Avoid all possible sources of ignition (spark or flame). Dry sweeping is not recommended. Do not perform any welding, cutting, drilling or other work that is susceptible to cause heat on or near empty container or transfer equipment until all combustible solids have been removed. Avoid dust accumulation. Pre-wet the material or use a vacuum equipped with high efficiency filter(s). The use of compressed air to clean equipment, clothing, etc. is not recommended. Provide ventilation and/or adequate ventilation in the working area. Refer to section 6 for environmental precautions.
<b>Fire and explosion protection recommendations</b>	Store and use away from heat, sparks, open flame or any other ignition source. Under dusty environment, use explosion-proof electrical (ventilating, lighting and material handling) equipment. NO SMOKING.
<b>Requirements for warehouses and containers</b>	Store in the original container.
<b>Storage information compatibility</b>	Combustible material. Keep away from incompatible materials such as reactive metals (Aluminum, Magnesium) and strong acids, or oxidizing agents. Keep away from food, drink and animal feeding stuffs.
<b>Storage recommendations</b>	Store in a tightly closed container in a dry, cool and well-ventilated area.
<b>Storage temperature</b>	< 30°C, not critical. Store away from direct sunlight.
<b>General hygiene</b>	Eating, drinking and smoking in work area is prohibited, wash hands after use and remove contaminated clothing and protective equipment before entering eating areas.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment must be selected and used according to local laws and regulations. In the EU Personal Protection Equipment are managed through the Council Directive 89/686/EEC.




<b>Professional exposure limits</b>	TWA PEL: No specific exposure limit has been established for this material. For reference, OSHA and ACGIH have established the following limits which are generally recognized for inert or nuisance dust. Particulates Not Otherwise Regulated (PNOR) 15mg/cu. meter.
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<p><b>Recommended monitoring procedures</b></p>	<p>If this product is present at levels above the exposure limit, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for the determination hazardous substances.</p>
<p><b>Occupational exposure controls</b></p>	<p>No special ventilation requirements. Good general ventilation should be sufficient to control airborne levels to an acceptable limit. If the exposure exceeded the limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.</p>
<p><b>Respiratory protection</b></p>	<p>A respirator is not needed under normal or intended conditions of product use. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.</p> 
<p><b>Hand protection</b></p>	<p>Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Reference should be made to European Standard EN 374.</p> 
<p><b>Eye protection</b></p>	<p>Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Reference should be made to European Standard EN 166.</p> 
<p><b>Body and skin protection</b></p>	<p>Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.</p>
<p><b>General protection and hygiene measures</b></p>	<p>Avoid dust inhalation. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the working area.</p>
<p><b>Technical measures</b></p>	<p>Provide adequate ventilation, especially in confined areas. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.</p>

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance (physical state &amp; colour)</b>	Low dust white to off-white powder	
<b>Odour</b>	Faint odor (Slight)	
<b>Odour threshold</b>	Not available	
<b>pH</b>	7.5 to 10.5	
<i>Temperature</i>	20°C	
<i>Concentration</i>	(10% w/v)	
<b>Melting point</b>	Not available	
<b>Boiling point</b>	Not applicable	
<b>Flash point</b>	Not applicable	
<b>Evaporation rate</b>	Not applicable	
<b>Flammability</b>	Low, however airborne dust may present hazard	
<b>Explosive properties</b>	Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable, except for airborne dust. Maximum explosion pressure: 620.5 kPa (6.2 bar; 90 psi). Maximum rate of pressure rise: 13099 kPa/sec. (13.1 bar/sec. approx. 1900 psi/sec.).	
<b>Vapour pressure</b>	0 kPa (0 mm Hg) (at 20°C)	
<b>Vapour density</b>	Not applicable	
<b>Relative density</b>	Not available	
<b>Bulk density</b>	0.42 – 0.53 g/mL	
<b>Water solubility</b>	42.8 g/100 ml water	48.4 g/100 ml water
<i>Temperature</i>	0°C	100°C
<b>Note:</b> Freely soluble in cold and hot water, slightly soluble in ethanol and methanol. Insoluble in acetone, diethyl ether, n-octanol and benzene.		
<b>Partition coefficient (n-octanol/water) (log value)</b>	0.33 (at 25°C) (propionic acid)	
<i>Measure type</i>	Calculated	
<b>Auto-ignition temperature</b>	530°C (986°F) (cloud)	
<b>Decomposition temperature</b>	Not available	
<b>Viscosity</b>	Not available	

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No know reactivity under normal conditions of use.
<b>Stability</b>	This product is stable and not hygroscopic.
<b>Hazardous reactions</b>	No dangerous reaction known under normal conditions of use.

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<b>Conditions to avoid</b>	Avoid all possible sources of ignition (spark or flame).
<b>Materials to avoid</b>	Reactive with acids. Slightly reactive or incompatible with active metals (Aluminum, Magnesium).
<b>Hazardous decomposition products</b>	Under fire conditions or above decomposition temperature emits carbon monoxide, carbon dioxide and calcium oxide.

## 11. TOXICOLOGICAL INFORMATION

<b>Oral toxicity</b>	3920 mg/kg (calcium propionate)	2350 mg/kg (calcium propionate)
<i>Test criteria</i>	LD <sub>50</sub>	LD <sub>50</sub>
<i>Species used for the test</i>	Rat	Mouse
<b>Note: No known significant effects or critical hazard.</b>		
<b>Inhalation Toxicity</b>	>5.6 mg/L (4 hrs.)	
<i>Test criteria</i>	LC <sub>50</sub>	
<i>Species used for the test</i>	Rat	
<b>Note: No known significant effects or critical hazard.</b>		
<b>Skin toxicity</b>	Not irritating	
<i>Test criteria</i>	Draize Test	
<i>Species used for the test</i>	Rabbit	
<b>Human Experience</b>	No known significant effect or critical hazards.	
<b>Skin corrosion/irritation</b>	Slightly hazardous in case of skin contact (irritant) but not sufficient to cause classification.	
<b>Serious eye damage/irritation</b>	Slightly hazardous in case of eye contact (irritant) but not sufficient to cause classification.	
<b>Skin sensitization</b>	Prolonged contact with concentrated solutions may cause redness, drying and cracking of the skin (dermatitis).	
<b>Other Toxicity</b>	No known significant effects or critical hazard.	
<b>Mutagenicity (germ cell) Reproduction</b>	No known significant effect or critical hazards.	
<b>Carcinogenicity</b>	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.	
<b>Developmental toxicity (maternal and teratotoxicity)</b>	NOAEL (No-observed-adverse-effect level) : Not available	
<b>STOT-single exposure</b>	NOAEL (No-observed-adverse-effect level) : Not available	
<b>STOT-Repeated exposure</b>	NOAEL (No-observed-adverse-effect level) > 660 mg/kg/day (male) and 696 mg/kg/day (female) (propionic acid)	

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## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	
<b>Toxicity to fish</b>	> 10000 mg/l
<i>Test criteria</i>	LC <sub>50</sub>
<i>Species used for the test</i>	<i>Leuciscus idus</i>
<i>Exposure time</i>	96 h
<b>Toxicity to bacteria</b>	Not available
<i>Test criteria</i>	Not available
<i>Species used for the test</i>	Not available
<i>Administration duration</i>	Not available
<b>Toxicity to daphnies</b>	> 500 mg/l
<i>Test criteria</i>	EC <sub>50</sub>
<i>Species used for the test</i>	<i>Daphnia magna</i>
<i>Exposure time</i>	48 h
<b>Toxicity to algae</b>	> 500 mg/l
<i>Test Criteria</i>	EC <sub>50</sub>
<i>Species used for the test</i>	<i>Scenedesmus subspicatus</i>
<i>Exposure time</i>	72 h
<b>Biodegradability</b>	Readily biodegradable
<b>Persistence</b>	Not persistent
<b>Bioaccumulation</b>	Low bioaccumulation potential
<b>Mobility in soil</b>	1.21 (propionic acid)
<b>Note:</b> Propionic acid will partition readily into soil, sediment, or biota. Similarly, propionic acid in these media would tend to move to water or ground-water if available.	
<b>Bioconcentration Coefficient factor (BCF)</b>	3.162 (Calculated: BCFWIN v2.15) (propionic acid)
<b>Determination results for PTB properties</b>	PBT (Persistent, Bioaccumulation and toxic) and vPvB (Very Persistent and Very Bioaccumulative) evaluation: Not applicable
<b>Notes:</b> May be harmful to freshwater aquatic species and to plants that are not saline tolerant. This product will contribute to the total Biological Oxygen Demand (BOD).	
<b>Other adverse effects:</b> No known significant effects or critical hazards.	

## 13. DISPOSAL CONSIDERATIONS

<b>Waste residues information</b>	The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewer. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation, and any national and local authority requirements. Refer to section 7 for handling directives and section 8 for exposure controls and personal protections.
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<b>Contaminated packaging</b>	Dispose of as waste residues.
<b>Waste classification</b>	Not classified
<b>European waste catalogue (EWC)</b>	Not classified
<b>Hazardous waste</b>	To the knowledge of the supplier, this product is not regarded as a hazardous waste as defined in the guideline 94/904/EC.

## 14. TRANSPORT INFORMATIONS

### INTERNATIONAL TRANSPORT REGULATIONS

Regulatory Information	Proper shipping name	Class	UN Number	PG	Label	Additional information
<b>ADR/RID Class</b>	Not applicable	-	Not regulated	-	-	-
<b>ADNR Class</b>	Not applicable	-	Not regulated	-	-	-
<b>IMDG Class</b>	Not applicable	-	Not regulated	-	-	-
<b>IATA Class</b>	Not applicable	-	Not regulated	-	-	-
<b>DOT Class</b>	Not applicable	-	Not regulated	-	-	-
<b>TDG Class</b>	Not applicable	-	Not regulated	-	-	-

ADR/RID: European road and rail transport regulation.  
ADNR: Rhine maritime transport regulation.  
IMDG: International maritime dangerous goods regulation.  
IATA/DGR: International air transport regulation.

DOT: Department of transport regulation.  
TMD: Transport of dangerous goods regulation.  
PG: Packaging group.

## 15. REGULATORY INFORMATIONS

### EUROPEAN UNION REGULATIONS

<b>Risk phrases</b>	This product is not classified according to EU legislation, including SVHC and RoHS.
<b>Contains</b>	Not applicable
<b>Product use</b>	Classification and labelling have been performed according to EU directives 1272/2008 (including amendments) replacing 67/548/EEC and 1999/45/EC and according to the intended use. Industrial applications.

### U.S.A

<b>HCS classification</b>	Not regulated
<b>U.S.A. federal regulations</b>	TSCA inventory: listed, propanoic acid, calcium salt, not regulated SARA 302/304/311/312 extremely hazardous substances: Not listed. SARA 302/304 emergency plan and notification: Not listed. SARA 302/304/311/312 hazardous chemicals: Not listed. SARA 311/312 MSDS distribution – chemical inventory – hazard identification: Not listed. CWA (Clean Water Act) 307: Not listed.



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	CWA (Clean Water Act) 311: Not listed. CAA (Clean Air Act) 112 accidental release prevention: Not listed. CAA (Clean Air Act) 112 regulated flammable substances: Not listed. CAA (Clean Air Act) 112 regulatory toxic substances: Not listed. Defined as non hazardous by Occupational Safety and Health Administration (OSHA) hazard communication standard 29 CFR 910.1200(d).
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<b>State regulations</b>	California prop. 65: Not listed.
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### CANADA

<b>WHMIS (Canada)</b>	Listed, not regulated CEPA DSL: Propionic acid, calcium salt
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This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

<b>National Fire Protection Association (U.S.A.)</b>		<b>Hazardous Material Information System (U.S.A.)</b>	<b>HMIS Rating</b> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="background-color: #0056b3; color: white;">Health</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">Fire hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: #ffcc00; color: white;">Physical hazard</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="background-color: #cccccc; color: black;">Personal protection</td> <td style="text-align: center;">B</td> </tr> </table>	Health	1	Fire hazard	1	Physical hazard	0	Personal protection	B
Health	1										
Fire hazard	1										
Physical hazard	0										
Personal protection	B										
4- Extreme 3- Serious 2- Moderate 1- Slight 0- Minimal	Blue : Health Red : Flammability Yellow : Reactivity White : Special	<b>B: Safety glasses and protective gloves should be worn when handling this material. This rating is given to materials which have the potential for skin irritation, or which may be harmful if absorbed through the skin.</b>									

### OTHER COUNTRY INVENTORIES

<b>AICS</b>	Listed, not regulated
<b>ENCS</b>	Listed, not regulated
<b>IESCSC</b>	Listed, not regulated
<b>PICCS</b>	Listed, not regulated
<b>KECL</b>	Listed, not regulated
<b>NZIOC</b>	Listed, not regulated

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## 16. OTHER INFORMATIONS

**Other information** General update of the document.

**Department issuing the safety data sheet** Technical Services, Macco

### HISTORY

**Edition date** 16 SE 2014

**Previous edition date** 01 FE 2012

### Notice to reader

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials or preparation may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

### References:

SIDS Initial Assessment report for SIAM 25, Helsinki, Finland 16-19 October 2007 (propionic acid).

Summary of existing data, proposed test plan and rationale for calcium dipropionate (CASRN 4075-81-4), U.S . EPA High Production Volume (HPV) Chemical Challenge Program, April 24, 2007.

EFSA Panel on Additives and Products or Substances used in Animal Feed (FEEDAP); Scientific Opinion on the safety and efficacy of propionic acid, sodium propionate, calcium propionate and ammonium propionate for all animal species. EFSA Journal 2011;9(12):2446.

CSST- Service du répertoire toxicologique.

ChemIDplus Lite