



# SAFETY DATA SHEET

Creation Date 11-Jul-2014

Revision Date 17-Oct-2016

Revision Number 8

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identification

**Product Description:** Calcium oxide  
**Cat No. :** 422830000; 422830010; 422830025  
**Synonyms** Lime  
**CAS-No** 1305-78-8  
**EC-No.** 215-138-9  
**Molecular Formula** Ca O  
**Reach Registration Number** 01-2119475325-36

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

**Recommended Use** Laboratory chemicals.  
**Sector of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Product category** PC21 - Laboratory chemicals  
**Process categories** PROC15 - Use as a laboratory reagent  
**Environmental release category** ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)  
**Uses advised against** No Information available

### 1.3. Details of the supplier of the safety data sheet

**Company** Acros Organics BVBA  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium  
**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Skin Corrosion/irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 1 (H318)
Specific target organ toxicity - (single exposure)	Category 3 (H335)

##### Environmental hazards

Based on available data, the classification criteria are not met

### 2.2. Label elements

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Signal Word

Danger

## Hazard Statements

- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H335 - May cause respiratory irritation

## Precautionary Statements

- 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/ physician

## 2.3. Other hazards

Water reactive

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Calcium oxide	1305-78-8	EEC No. 215-138-9	>95	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 3 (H335)

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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Inhalation</b>	Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<b>Protection of First-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to

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protect themselves and prevent spread of contamination.

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

Causes severe eye damage. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

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

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

#### **Extinguishing media which must not be used for safety reasons**

Water.

### 5.2. Special hazards arising from the substance or mixture

Non-combustible. Water reactive.

#### **Hazardous Combustion Products**

None known.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

### 6.2. Environmental precautions

Avoid release to the environment. See Section 12 for additional ecological information.

### 6.3. Methods and material for containment and cleaning up

Do not expose spill to water. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. Handle under inert gas, protect from moisture.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before

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breaks and at the end of workday.

## 7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Protect from moisture. Store under an inert atmosphere.

## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	European Union	The United Kingdom	France	Belgium	Spain
Calcium oxide		STEL: 6 mg/m <sup>3</sup> 15 min TWA: 2 mg/m <sup>3</sup> 8 hr	TWA / VME: 2 mg/m <sup>3</sup> (8 heures).	TWA: 2 mg/m <sup>3</sup> 8 uren	TWA / VLA-ED: 2 mg/m <sup>3</sup> (8 horas)
Component	Italy	Germany	Portugal	The Netherlands	Finland
Calcium oxide		TWA: 1 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2 TWA: 1 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> 8 horas		TWA: 2 mg/m <sup>3</sup> 8 tunteina
Component	Austria	Denmark	Switzerland	Poland	Norway
Calcium oxide	MAK-KZW: 4 mg/m <sup>3</sup> 15 Minuten MAK-TMW: 2 mg/m <sup>3</sup> 8 Stunden	TWA: 2 mg/m <sup>3</sup> 8 timer	STEL: 2 mg/m <sup>3</sup> 15 Minuten TWA: 2 mg/m <sup>3</sup> 8 Stunden	STEL: 6 mg/m <sup>3</sup> 15 minutach STEL: 4 mg/m <sup>3</sup> 15 minutach TWA: 2 mg/m <sup>3</sup> 8 godzinach TWA: 1 mg/m <sup>3</sup> 8 godzinach	Ceiling: 2 mg/m <sup>3</sup>
Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Calcium oxide	TWA: 5.0 mg/m <sup>3</sup>	TWA-GVI: 2 mg/m <sup>3</sup> 8 satima.	TWA: 2 mg/m <sup>3</sup> 8 hr. STEL: 6 mg/m <sup>3</sup> 15 min		TWA: 2 mg/m <sup>3</sup> 8 hodinách. Ceiling: 4 mg/m <sup>3</sup>
Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Calcium oxide	TWA: 2 mg/m <sup>3</sup> 8 tundides. STEL: 5 mg/m <sup>3</sup> 15 minutites.		TWA: 5 mg/m <sup>3</sup>	STEL: 5 mg/m <sup>3</sup> 15 percekben. CK TWA: 5 mg/m <sup>3</sup> 8 órában. AK	TWA: 2 mg/m <sup>3</sup> 8 klukkustundum. Ceiling: 4 mg/m <sup>3</sup>
Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Calcium oxide	TWA: 5 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> IPRD STEL: 5 mg/m <sup>3</sup>			TWA: 2 mg/m <sup>3</sup> 8 ore STEL: 5 mg/m <sup>3</sup> 15 minute
Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Calcium oxide	Skin notation MAC: 1 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> total aerosol	TWA: 5 mg/m <sup>3</sup> 8 urah inhalable fraction STEL: 5 mg/m <sup>3</sup> 15 minutah inhalable fraction	STV: 2.5 mg/m <sup>3</sup> 15 minuter inhalable dust LLV: 1 mg/m <sup>3</sup> 8 timmar. inhalable dust	

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**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

**Derived No Effect Level (DNEL)** No information available

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral Dermal Inhalation				

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

**Engineering Measures**

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)  
**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers recommendations	-	EN 374	(minimum requirement)
Nitrile rubber				
Neoprene				
PVC				

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
 To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Small scale/Laboratory use** **Recommended Filter type:** Particulates filter conforming to EN 143  
 Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Particle filtering: EN149:2001  
 When RPE is used a face piece Fit Test should be conducted

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Environmental exposure controls No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Appearance	Beige	
Physical State	Powder Solid	
Odor	Odorless	
Odor Threshold	No data available	
pH	12.5	
Melting Point/Range	2570 °C / 4658 °F	
Softening Point	No data available	
Boiling Point/Range	2850 °C / 5162 °F	@ 760 mmHg
Flash Point	No information available	<b>Method -</b> No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	Reacts with water	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature		
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

### 9.2. Other information

Molecular Formula	Ca O
Molecular Weight	56.08

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Yes

### 10.2. Chemical stability

Moisture sensitive. Air sensitive.

### 10.3. Possibility of hazardous reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	No information available.

### 10.4. Conditions to avoid

Avoid dust formation. Exposure to air. Incompatible products. Exposure to moist air or water.

### 10.5. Incompatible materials

Acids. Strong oxidizing agents. Halogens. Fluorine. Hydrogen fluoride. Carbon dioxide (CO<sub>2</sub>). Alcohols. Water.

### 10.6. Hazardous decomposition products

None known.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

#### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium oxide	>2000 mg/kg (female Rat)		

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 1

#### (d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

(f) carcinogenicity;

Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;

Based on available data, the classification criteria are not met

(h) STOT-single exposure;

Category 3

Results / Target organs

Respiratory system.

(i) STOT-repeated exposure;

Based on available data, the classification criteria are not met

Target Organs

No information available.

(j) aspiration hazard;

Not applicable

Solid

Symptoms / effects, both acute and delayed

Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecotoxicity effects

Do not empty into drains.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Calcium oxide	LC50: = 1070 mg/L, 96h static (Cyprinus carpio)			

### 12.2. Persistence and degradability

Persistence

Persistence is unlikely, based on information available.

Degradability

Not relevant for inorganic substances, Reacts with water.

Degradation in sewage treatment plant

Water reactive.

### 12.3. Bioaccumulative potential

Product does not bioaccumulate due to reaction with water

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**12.4. Mobility in soil** Reacts with water. Is not likely mobile in the environment.

**12.5. Results of PBT and vPvB assessment** Water reactive.

**12.6. Other adverse effects**  
**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors  
**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues / Unused Products** Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**European Waste Catalogue (EWC)** According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not dispose of waste into sewer. Large amounts will affect pH and harm aquatic organisms. Solutions with high pH-value must be neutralized before discharge.

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

**ADR** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

### IATA

**14.1. UN number** UN1910  
**14.2. UN proper shipping name** CALCIUM OXIDE  
**14.3. Transport hazard class(es)** 8  
**14.4. Packing group** III

**14.5. Environmental hazards** No hazards identified

**14.6. Special precautions for user** No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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



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## International Inventories

X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Calcium oxide	215-138-9	-		X	X	-	X	X	X	X	X

## National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Calcium oxide	WGK 1	

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

**Creation Date** 11-Jul-2014

**Revision Date** 17-Oct-2016

**Revision Summary** Update to Format.

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**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**