


# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>VitaCal® O Food Codex Grade Calcium Oxide</b>
<b>Other means of identification</b>	None.
<b>Recommended use</b>	For all direct and indirect food contact applications of calcium oxide by 21 CFR 184.1210 and related global regulations.
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufacturer:</b>	Mississippi Lime Company
<b>Address:</b>	16147 US Highway 61 Ste Genevieve, MO 63670
<b>Phone Number:</b>	(800) 437-5463
<b>24 Hour Emergency Contact Number:</b>	(855) 237-5573

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Skin corrosion/irritation	Category 1C
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 3
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		

<b>Signal word</b>	Danger
<b>Hazard statement</b>	Causes severe skin burns and eye damage. May cause respiratory irritation. Harmful to aquatic life.
<b>Precautionary statement</b>	
<b>Prevention</b>	Do not breathe dust. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response</b>	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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 center/doctor. Wash contaminated clothing before reuse.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	CAS number	%
Calcium oxide	1305-78-8	97
Calcium carbonate, synthetic	471-34-1	1.5
Silicon dioxide, crystalline silica-free	7631-86-9	1

**Composition comments** All concentrations are in percent by weight. Components not listed are either non-health-hazardous or are below reportable limits.

#### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	Do not use water as an extinguisher. The product reacts with water and will generate heat.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Use water spray to cool unopened containers. Move containers from fire area if you can do it without risk. In case of fire and/or explosion do not breathe fumes.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	The product is nonflammable and does not support combustion.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent product from entering drains. Stop the flow of material, if this is without risk. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get water inside containers. Prevent entry into waterways, sewer, basements or confined areas.  Small Spills: Cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Collect spill using a vacuum cleaner with a HEPA filter. Put material in suitable, covered, labeled containers.
<b>Environmental precautions</b>	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Avoid contact with acids, water, and moisture. Protect from humidity. The substance is hygroscopic and will absorb water by contact with the moisture in the air. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### U.S. - OSHA

##### Components

##### Type

##### Value

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

TWA

80 mg/m<sup>3</sup>

#### US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

##### Components

##### Type

##### Value

Calcium oxide (CAS 1305-78-8)

PEL

5 mg/m<sup>3</sup>

#### US. OSHA Table Z-3 Permissible Exposure Limits (PEL) for Mineral Dusts (29 CFR 1910.1000)

##### Components

##### Type

##### Value

##### Form

Calcium carbonate, synthetic (CAS 471-34-1)

TWA

5 mg/m<sup>3</sup>

Respirable fraction.

15 mg/m<sup>3</sup>

Total dust.

50 mppcf

Total dust.

15 mppcf

Respirable fraction.

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

TWA

5 mg/m<sup>3</sup>

Respirable fraction.

15 mg/m<sup>3</sup>

Total dust.

20 mppcf

#### US. ACGIH Threshold Limit Values (TLV)

##### Components

##### Type

##### Value

Calcium oxide (CAS 1305-78-8)

TWA

2 mg/m<sup>3</sup>

#### NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

##### Components

##### Type

##### Value

Calcium oxide (CAS 1305-78-8)

IDLH

25 mg/m<sup>3</sup>

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

IDLH

3000 mg/m<sup>3</sup>

#### US. NIOSH: Pocket Guide to Chemical Hazards

##### Components

##### Type

##### Value

##### Form

Calcium carbonate, synthetic (CAS 471-34-1)

TWA

5 mg/m<sup>3</sup>

Respirable.

10 mg/m<sup>3</sup>

Total

Calcium oxide (CAS 1305-78-8)

TWA

2 mg/m<sup>3</sup>

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

TWA

6 mg/m<sup>3</sup>

### Biological limit values

No biological exposure limits noted for the ingredient(s).

<b>Appropriate engineering controls</b>	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. Eye wash facilities and emergency shower must be available when handling this product.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	When working with powders or dusts, wear dust-proof chemical goggles and face shield unless full facepiece respiratory protection is worn.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
<b>Skin protection</b>	
<b>Other</b>	Wear appropriate chemical resistant clothing. Apron with long sleeves or two piece chemical protective clothing, and rubber boots are recommended.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear NIOSH approved respirator appropriate for airborne exposure at the point of use.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Color</b>	Light grey to White.
<b>Odor</b>	Odorless.
<b>Odor threshold</b>	Not available.
<b>pH</b>	None as a solid.
<b>Melting point/freezing point</b>	4658 °F (2570 °C)
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Does not flash
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Non flammable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	N/A
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Reacts with water to form Ca(OH) <sub>2</sub> .
<b>Solubility (solvents)</b>	None.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Does not ignite.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.

**Oxidizing properties** Not oxidizing.

## 10. Stability and reactivity

**Reactivity** The product reacts with water and will generate heat.

**Chemical stability** The product is stable under normal conditions of use, storage and transport.

**Possibility of hazardous reactions** Reacts violently with strong acids. Calcium oxide reacts exothermically with water to form calcium hydroxide. The heat generated by this reaction may ignite combustible materials.

**Conditions to avoid** Contact with incompatible materials. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

**Incompatible materials** Acids. Water, moisture. Humid air. Hydrogen fluoride. Phosphorus pentoxide. Boric oxide. Steam. Organic material.

**Hazardous decomposition products** Contact with water: Calcium hydroxide.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** May cause respiratory irritation. Prolonged inhalation may be harmful.

**Skin contact** Causes severe skin burns.

**Eye contact** Causes serious eye damage.

**Ingestion** Causes digestive tract burns.

**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes digestive tract burns. May cause respiratory irritation.

### Information on toxicological effects

**Acute toxicity** Not expected to be acutely toxic.

Components	Species	Test Results
Calcium carbonate, synthetic (CAS 471-34-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	6450 mg/kg
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 5000 mg/kg, 24 Hours
<b>Inhalation</b>		
<i>Dust</i>		
LC50	Rat	> 0.14 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	> 3300 mg/kg

**Skin corrosion/irritation** Causes severe skin burns.

**Serious eye damage/eye irritation** Causes serious eye damage.

### Respiratory or skin sensitization

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Silicon dioxide, crystalline silica-free (CAS 7631-86-9) 3 Not classifiable as to carcinogenicity to humans.

### NTP Report on Carcinogens

Not listed.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life.

Components	Species	Test Results
Calcium carbonate, synthetic (CAS 471-34-1)		
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) > 56000 mg/l, 96 Hours

**Persistence and degradability** The product solely consists of inorganic compounds which are not biodegradable.

**Bioaccumulative potential** No data available on bioaccumulation.

**Mobility in soil** No data available for this product.

**Other adverse effects** The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN1910
<b>UN proper shipping name</b>	Calcium oxide
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>Special precautions for user</b>	Symbol A – Airfreight Regulated. This material is not subject to HMR when transported by ground. Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	IB8, IP3, T1, TP33
<b>Packaging exceptions</b>	154
<b>Packaging non bulk</b>	213
<b>Packaging bulk</b>	240

### IATA

<b>UN number</b>	UN1910
<b>UN proper shipping name</b>	Calcium oxide
<b>Transport hazard class(es)</b>	
<b>Class</b>	8

**Subsidiary risk** -  
**Packing group** III  
**Environmental hazards** No.  
**ERG Code** 8L  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**IMDG**

**UN number** UN1910  
**UN proper shipping name** Calcium oxide  
**Transport hazard class(es)**  
**Class** 8  
**Subsidiary risk** -  
**Packing group** -  
**Environmental hazards**  
**Marine pollutant** No.  
**EmS** Not assigned.  
**Special precautions for user** Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes. SP 960. Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

**15. Regulatory information**

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Toxic Substances Control Act (TSCA)** All components of the mixture on the TSCA 8(b) inventory are designated "active".

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Skin corrosion or irritation  
 Serious eye damage or eye irritation  
 Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

**US. Massachusetts RTK - Substance List**

Calcium carbonate, synthetic (CAS 471-34-1)  
 Calcium oxide (CAS 1305-78-8)  
 Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

**US. New Jersey Worker and Community Right-to-Know Act**

Calcium carbonate, synthetic (CAS 471-34-1)

Calcium oxide (CAS 1305-78-8)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Calcium carbonate, synthetic (CAS 471-34-1)

Calcium oxide (CAS 1305-78-8)

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

**US. Rhode Island RTK**

Calcium carbonate, synthetic (CAS 471-34-1)

Calcium oxide (CAS 1305-78-8)

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

**Issue date** 26-October-2017

**Revision date** 13-December-2023

**Version #** 06

**HMIS® ratings**  
 Health: 3  
 Flammability: 0  
 Physical hazard: 1

**Disclaimer** Mississippi Lime Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.