

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Furnace Reagent  
Product code : AR615

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

#### 1.3. Supplier

Alpha Resources LLC  
3090 Johnson Rd.  
Stevensville, Michigan 49127  
USA  
T (269)465-5559  
[info@alpharesources.com](mailto:info@alpharesources.com) - [www.alpharesources.com](http://www.alpharesources.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC Emergency Phone Number: (800) 424-9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H332 - Harmful if inhaled  
H335 - May cause respiratory irritation

Precautionary statements (GHS US) :

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 - If on skin: Wash with plenty of water.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.  
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.  
P312 - Call a poison center or doctor if you feel unwell.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

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P405 - Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
CALCIUM OXIDE	CAS-No.: 1305-78-8	50	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402
KAOLIN	CAS-No.: 1332-58-7	50	Acute Tox. 4 (Inhalation:dust,mist), H332

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: None under normal conditions.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

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

General measures : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel.

#### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Using a clean shovel, put the material in a dry container and cover without compressing it.

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Packaging materials : Store always product in container of same material as original container.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Furnace Reagent	
No additional information available	
CALCIUM OXIDE (1305-78-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Calcium oxide
ACGIH OEL TWA	2 mg/m <sup>3</sup>
Remark (ACGIH)	TLV® Basis: URT irr
Regulatory reference	ACGIH 2024

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### CALCIUM OXIDE (1305-78-8)

#### USA - OSHA - Occupational Exposure Limits

Local name	Calcium oxide
OSHA PEL TWA	5 mg/m <sup>3</sup>
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

### KAOLIN (1332-58-7)

#### USA - ACGIH - Occupational Exposure Limits

Local name	Kaolin
ACGIH OEL TWA	2 mg/m <sup>3</sup> (E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica, R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024

#### USA - OSHA - Occupational Exposure Limits

Local name	Kaolin
OSHA PEL TWA	15 mg/m <sup>3</sup> (Total dust) 5 mg/m <sup>3</sup> (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

#### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

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

Physical state : Solid  
Color : Off-white

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Odor	: odorless
Odor threshold	: No data available
pH	: No data available.
Melting point	: 2572
Freezing point	: Not applicable
Boiling point	: 2850 °C
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: Not applicable.
Relative density	: No data available.
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation:dust,mist: Harmful if inhaled.

Furnace Reagent	
ATE US (dust, mist)	3 mg/l/4h
CALCIUM OXIDE (1305-78-8)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

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<b>CALCIUM OXIDE (1305-78-8)</b>	
LC50 Inhalation - Rat	> 6.04 mg/l air Animal: rat, Guideline: OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class Method)
<b>KAOLIN (1332-58-7)</b>	
LD50 oral rat	> 5000 mg/kg Source: HSDB
LD50 dermal rat	> 5000 mg/kg Source: HSDB
LC50 Inhalation - Rat (Dust/Mist)	≥ 5 mg/l Source: OSHRI GLP toxicity test
ATE US (dust, mist)	1.5 mg/l/4h
Skin corrosion/irritation	: Causes skin irritation. pH: No data available.
<b>CALCIUM OXIDE (1305-78-8)</b>	
pH	12.8 Source: HSDB
<b>KAOLIN (1332-58-7)</b>	
pH	4.5 Source: hsdB
Serious eye damage/irritation	: Causes serious eye damage. pH: No data available.
<b>CALCIUM OXIDE (1305-78-8)</b>	
pH	12.8 Source: HSDB
<b>KAOLIN (1332-58-7)</b>	
pH	4.5 Source: hsdB
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
<b>CALCIUM OXIDE (1305-78-8)</b>	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
<b>CALCIUM OXIDE (1305-78-8)</b>	
NOAEL (oral,rat,90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Aspiration hazard	: Not classified
Viscosity, kinematic	: Not applicable
<b>CALCIUM OXIDE (1305-78-8)</b>	
Viscosity, kinematic	Not applicable
<b>KAOLIN (1332-58-7)</b>	
Viscosity, kinematic	Not applicable
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: None under normal conditions.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

#### CALCIUM OXIDE (1305-78-8)

LC50 - Fish [1]	50.6 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	49.1 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	184.57 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	32 mg/l Test organisms (species): Crangon septemspinosa Duration: '14 d'

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.  
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Sewage disposal recommendations : Disposal must be done according to official regulations.  
Product/Packaging disposal recommendations : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.  
Additional information : Do not re-use empty containers.

### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

#### 14.1. UN number

UN-No.(DOT) : UN1910  
UN-No. (TDG) : UN1910  
UN-No. (IMDG) : Not applicable  
UN-No. (IATA) : 1910

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Calcium oxide  
Proper Shipping Name (TDG) : CALCIUM OXIDE  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Calcium oxide

#### 14.3. Transport hazard class(es)

##### DOT

Transport hazard class(es) (DOT) : 8  
Hazard labels (DOT) : 8



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### TDG

Transport hazard class(es) (TDG) : 8  
Hazard labels (TDG) : 8



### IMDG

Transport hazard class(es) (IMDG) : Not applicable

### IATA

Transport hazard class(es) (IATA) : 8  
Hazard labels (IATA) : 8



### 14.4. Packing group

Packing group (DOT) : III  
Packing group (TDG) : III  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : III

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

UN-No.(DOT) : UN1910  
DOT Special Provisions (49 CFR 172.102) : IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).  
IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.  
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)  
TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 154  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 213  
DOT Packaging Bulk (49 CFR 173.xxx) : 240  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg  
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.



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**TDG**

UN-No. (TDG)	: UN1910
TDG Special Provisions	: 63 - These Regulations do not apply to these dangerous goods unless they are to be transported by aircraft.
Explosive Limit and Limited Quantity Index	: 5 kg
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 25 kg
Emergency Response Guide (ERG) Number	: 157

**IMDG**  
No data available

**IATA**

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y845
PCA limited quantity max net quantity (IATA)	: 5kg
PCA packing instructions (IATA)	: 860
PCA max net quantity (IATA)	: 25kg
CAO packing instructions (IATA)	: 864
CAO max net quantity (IATA)	: 100kg
Special provision (IATA)	: A803
ERG code (IATA)	: 8L

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
CALCIUM OXIDE	1305-78-8	Present	Active	
KAOLIN	1332-58-7	Present	Active	

### 15.2. International regulations

#### CANADA

##### **CALCIUM OXIDE (1305-78-8)**

Listed on the Canadian DSL (Domestic Substances List)

##### **KAOLIN (1332-58-7)**

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

##### **CALCIUM OXIDE (1305-78-8)**

Listed on INSQ (Mexican National Inventory of Chemical Substances)

##### **KAOLIN (1332-58-7)**

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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### 15.3. US State regulations

No additional information available

### SECTION 16: Other information

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Revision date : 1/9/2025

Full text of hazard classes and H-statements	
H315	Causes skin irritation
H318	Causes serious eye damage
H332	Harmful if inhaled
H335	May cause respiratory irritation
H402	Harmful to aquatic life

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.