

# Material Safety Data Sheet

Revision 5: 2/18/05  
 Material Name: Draegersorb 400

ID: 4594990

**\*\*\* Section 1 - Chemical Product and Company Identification \*\*\***

**Part Number:** 6736653, 6737985

**Product Use:** Absorber for carbon dioxide in respiratory equipment / devices.

**Synonyms:** Soda lime

**Manufacturer Information**

Dräger Safety AG & Co. KGaA  
 Revalstr. 1  
 23560 Lübeck  
 Germany

**Distributor/Contact Information**

Draeger Safety, Inc  
 101 Technology Drive  
 Pittsburgh, PA 15275-1057

Phone: (412) 787-8383  
 Fax: (412) 787-2207  
 Emergency # 1-800-424-9300 (CHEMTREC)

**General Comments**

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

**\*\*\* Section 2 - Composition / Information on Ingredients \*\*\***

CAS #	Component	Percent
1305-62-0	Calcium hydroxide	78-84
7732-18-5	Water	12-20
1310-73-2	Sodium hydroxide	2-4

**Component Information/Information on Non-Hazardous Components**

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

This product contains no ozone-depleting chemicals and no volatile organic chemicals (VOCs). During the manufacturing process, no ozone-depleting chemicals and no VOCs were used.

**\*\*\* Section 3 - Hazards Identification \*\*\***

**Emergency Overview**

This product is a non-combustible solid. It is supplied in the form of white, odorless, hemispherical pellets. These pellets are severely irritating to the eyes, skin and respiratory tract and may cause severe burns.

**Potential Health Effects: Eyes**

Eye contact may cause corrosive damage with severe irritation, burns, and possible eye injury.

**Potential Health Effects: Skin**

This product is severely irritating to the skin and may cause burns.

**Potential Health Effects: Ingestion**

Ingestion of this product may cause nausea, vomiting and diarrhea. Contact with mucous membranes may cause corrosive damage, and possibly perforations.

**Potential Health Effects: Inhalation**

Inhalation of dusts may cause severe respiratory irritation with coughing, shortness of breath, burns, and pulmonary edema.

**HMIS Ratings: Health: 2 Fire: 0 Physical Hazard: 1 Pers. Prot.:** safety glasses with sideshields, impervious gloves  
 Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

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## \*\*\* Section 4 - First Aid Measures \*\*\*

### First Aid: Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

### First Aid: Skin

For skin contact flush with large amounts of water while removing contaminated clothing. If irritation persists, get medical attention. Discard any shoes or clothing items that cannot be decontaminated.

### First Aid: Ingestion

If material is ingested, immediately contact a physician or poison control center. Give 4 to 8 ounces of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting unless directed to do so by medical personnel.

### First Aid: Inhalation

If inhaled, immediately remove the affected person to fresh air. If symptoms persist, get medical attention.

### First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically. Skin contact may be treated with polyethylene glycol 400. Ingestion of contents may cause severe irritation to the gastrointestinal tract and risk of perforation in the esophagus and stomach.

## \*\*\* Section 5 - Fire Fighting Measures \*\*\*

**Flash Point:** Not available

**Upper Flammable Limit (UFL):** Not available

**Auto Ignition:** Not available

**Rate of Burning:** Not available

### General Fire Hazards

This material will not burn.

### Hazardous Combustion Products

Decomposition of this product may yield oxides of sodium and calcium.

### Extinguishing Media

Use methods for the surrounding fire. DO NOT use carbon dioxide due to risk of exothermic reaction. When using water as an extinguishing media, take care of the resulting alkaline run-off.

### Fire Fighting Equipment/Instructions

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

**NFPA Ratings: Health: 2 Fire: 0 Reactivity: 1**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

## \*\*\* Section 6 - Accidental Release Measures \*\*\*

### Containment Procedures

Stop the flow of material, if this is without risk. Block any potential routes to water systems.

### Clean-Up Procedures

Sweep up or gather material and place in appropriate container for disposal. Wash spill area thoroughly. Wear appropriate protective equipment during cleanup. Avoid the generation of dusts during clean-up.

### Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

### Special Procedures

Follow all Local, State, Federal and Provincial regulations for disposal.

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## \*\*\* Section 7 - Handling and Storage \*\*\*

### Handling Procedures

Do not get this material in your eyes, on your skin, or on your clothing. Do not breathe dust from this material. Use this product with adequate ventilation. Wash thoroughly after handling.

### Storage Procedures

Keep the container tightly closed and in a cool, well-ventilated place. Store in original containers at temperatures ranging from -30°C to +50°C (-22°F to +122°F). Store away from acids.

## \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### Exposure Guidelines

#### A: General Product Information

Follow recommended exposure limits.

#### B: Component Exposure Limits

##### Calcium hydroxide (1305-62-0)

ACGIH: 5 mg/m3 TWA

OSHA: 5 mg/m3 TWA (not in effect as a result of reconsideration)

NIOSH: 5 mg/m3 TWA

##### Sodium hydroxide (1310-73-2)

ACGIH: 2 mg/m3 Ceiling

OSHA: 2 mg/m3 Ceiling

NIOSH: 2 mg/m3 Ceiling

### Engineering Controls

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

### PERSONAL PROTECTIVE EQUIPMENT

#### Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields. Wear chemical goggles if dusts are generated or if product is in solution.

#### Personal Protective Equipment: Skin

Use impervious gloves. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves.

#### Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

#### Personal Protective Equipment: General

Use good industrial hygiene practices in handling this material.

## \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

**Appearance:** White, hemispherical pellets  
**Physical State:** solid  
**Vapor Pressure:** Not applicable  
**Boiling Point:** Not applicable  
**Solubility (H2O):** 1 g/L @ 20°C  
**Bulk Density:** 865 +/- 100 g/L

**Odor:** Odorless  
**pH:** 12.0 (in solution 1g/L @ 20°C)  
**Vapor Density:** Not applicable  
**Melting Point:** Not applicable  
**Specific Gravity:** Not applicable  
**Molecular Weight:** Mixture

## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

### Chemical Stability

Stable under normal conditions.

#### Chemical Stability: Conditions to Avoid

Avoid contact with water and acids.

#### Incompatibility

This product may react with light metals (aluminum) to form hydrogen gas.

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## Hazardous Decomposition

Decomposition in CaO and H<sub>2</sub>O at ~500°C (930°F). Decomposition of this product may yield oxides of sodium and calcium.

## Hazardous Polymerization

Will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute and Chronic Toxicity

#### A: General Product Information

Calcium hydroxide may produce eye, skin, respiratory system or gastrointestinal system irritation or burns. Solid particles or paste may react with moisture and protein in the eye and form clumps of moist compound, which are very difficult to remove. The clumps lodge in the cul-de-sac and act as reservoirs for the liberation of calcium hydroxide over time. May cause severe irritation, burns, excess tearing, conjunctiva edema, corneal edema, hemorrhage and opacification. Glaucoma has also been reported. Sodium hydroxide is a strong irritant and is corrosive to the skin, eyes, and mucous membranes. It can cause severe burns and permanent damage to any tissue with which it comes into contact. Concentrated solutions of this product may be corrosive and cause severe or permanent damage to all tissue. Ingestion may cause nausea, vomiting, abdominal pain, and diarrhea. Inhalation of dusts may cause severe irritation and possible burns.

Data for Draegersorb 400: on the skin, non-irritant, rabbit (OECD 404); in the eye, >3 after 72h cornea opacity, rabbit (OECD 405).

#### B: Component Analysis - LD50/LC50

##### Calcium hydroxide (1305-62-0)

Oral LD50 Rat: 7340 mg/kg; Oral LD50 Mouse: 7300 mg/kg

### Carcinogenicity

#### A: General Product Information

There is a risk of developing cicatricial (as a result of scars) cancer at the site of a healing sodium hydroxide burn. However, sodium hydroxide by itself is not listed as a carcinogen.

#### B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

### Teratogenicity

In an isolated report, sodium hydroxide was found to be embryotoxic in rats.

## \*\*\* Section 12 - Ecological Information \*\*\*

### Ecotoxicity

#### A: General Product Information

Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. Calcium hydroxide is harmful to aquatic life in very low concentrations.

#### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

### Environmental Fate

This product is not expected to accumulate in the food chain.

## \*\*\* Section 13 - Disposal Considerations \*\*\*

### US EPA Waste Number & Descriptions

#### A: General Product Information

Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

#### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

### Disposal Instructions

Waste must be handled in accordance with all federal, state, provincial, and local regulations.

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## \*\*\* Section 14 - Transportation Information \*\*\*

### International Transportation Regulations

No additional information available.

### US DOT Information

**Shipping Name:** Not regulated as dangerous goods.

## \*\*\* Section 15 - Regulatory Information \*\*\*

### US Federal Regulations

#### A: General Product Information

None identified.

#### B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

#### **Sodium hydroxide (1310-73-2)**

CERCLA: 1000 lb final RQ; 454 kg final RQ

### State Regulations

#### A: General Product Information

Other state regulations may apply. Check individual state requirements.

#### B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Calcium hydroxide	1305-62-0	Yes	Yes	Yes	Yes	Yes	Yes
Sodium hydroxide	1310-73-2	Yes	Yes	Yes	Yes	Yes	Yes

### Canadian WHMIS Information

#### A: General Product Information

WHMIS Class E - Corrosive Material

#### B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Calcium hydroxide	1305-62-0	1 % (English Item 302, French Item 991)
Sodium hydroxide	1310-73-2	1 % (English Item 1442, French Item 998)

### Additional Regulatory Information

#### A: General Product Information

No additional information available.

#### B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Calcium hydroxide	1305-62-0	Yes	DSL	EINECS
Water	7732-18-5	Yes	DSL	EINECS
Sodium hydroxide	1310-73-2	Yes	DSL	EINECS

## \*\*\* Section 16 - Other Information \*\*\*

### Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

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## Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. CFR = Code of Federal Regulations. EINECS = European Inventory of Existing Commercial Chemical Substances. EPA = Environmental Protection Agency. HEPA = High Efficiency Particulate Air. HMIS = Hazardous Material Information System. IARC = International Agency for Research on Cancer. NFPA = National Fire Protection Association. NIOSH = National Institute of Occupational Safety and Health. NJTSR = New Jersey Trade Secret Registry. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. NA = Not available or Not Applicable. SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act.

**Contact:** Product Manager

**Contact Phone:** 412-787-8383

This is the end of MSDS # 4594990