

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: SODASORB® LF
MSDS ID Number: C-00671

MSDS Date: 06/13/2007

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: SODASORB® LF
MSDS Number: C-00671
Cancelled MSDS Number: C-00581
MSDS Date: 06/13/2007
Chemical Description: Inorganic Solid Blend
Product Use: Alkaline Carbon Dioxide absorbent
CAS # (Chemical Abstracts Service Number): Mixture - NA

Manufactured by:
DAREX
W.R.Grace & Co.-Conn.
62 Whittemore Avenue
Cambridge, MA 02140

In Case of Emergency Call: (617) 876-1400

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS#	Percent (max)
Calcium hydroxide	001305-62-0	50-100
Sodium hydroxide	001310-73-2	< 1

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:

Caution!
Causes severe eye irritation.
Causes skin irritation.
May be harmful if ingested.

HMIS Rating:

Health: 2
Flammability: 0
Reactivity: 0
Personal Protective Equipment: See Section 8

Potential Health Effects:

Inhalation: Dust can cause irritation and injury to the respiratory system
If inhaled as a vapor or mist, causes irritation, sore throat, coughing and breathing difficulty.
Effects include: No other effects expected unless listed below.
Eye Contact: Eye contact can cause severe irritation.
Prolonged eye contact can result in permanent damage.
Risk of serious damage to eyes.
Skin Contact: Skin contact causes irritation.
Prolonged skin contact can result in permanent damage.
Skin Absorption: Not expected to be harmful if absorbed through the skin.
Ingestion: Harmful if ingested.
Effects include: No other effects expected unless listed below.

SECTION 4 - FIRST AID MEASURES:

Skin Contact: Wash with soap and water.
If discomfort or irritation persists, consult a physician.
Remove contaminated clothing and wash before reuse.
Eye Contact: Flush eyes with water for at least 15 minutes while holding eyelids open.
Get immediate medical attention.
Ingestion: Do not induce vomiting.
Never give anything by mouth to an unconscious person.
Call a physician.
Dilute with weak vinegar solution or a 5% solution of ammonia chloride if available. If not, dilute with large quantities of water.
Inhalation: If symptoms develop, get fresh air. If symptoms persist, consult a physician.
If breathing has stopped, give artificial respiration then oxygen if needed.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Flammable
Flash Point Method: Not Applicable
Lower Explosion Limit: Not Available

Upper Explosion Limit: Not Available
Auto-Ignition Temperature: Not Available

NFPA Rating:

Health: 2
Flammability: 0
Reactivity: 0

Extinguishing Media: In case of fire, use water spray, dry chemical, Carbon dioxide or foam.
Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: Keep all SODASORB® LF that has been used with highly flammable anesthetics away from heat, sparks, and open flames, as residual amounts of these materials will be present.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Spills/Leaks: Carefully shovel or sweep up spilled material and place in suitable container for disposal, do not use material in anesthesia circuit.

SECTION 7 - HANDLING AND STORAGE

Precautionary Measures:
Do not leave SODASORB® LF exposed to air for extended periods of time, since this will cause moisture loss and reduce CO2 absorption performance.
Avoid contact with eyes, skin and clothing.
Do not take internally.
Avoid creating airborne dust, especially when pouring or handling loose material.
Keep from freezing, which may reduce CO2 absorption performance and increase fines.
SODASORB® LF that has been frozen should be completely thawed before use.
Wear gloves and eye protection when handling SODASORB® LF. Wear a dust mask, if necessary.
Keep all SODASORB® LF that has been used with highly flammable anesthetics away from heat, sparks, and open flames, as residual amounts of these materials will be present.
Do not subject SODASORB® LF to high fresh gas flow rates for extended periods of time since this will cause moisture loss from the absorbent. Replace dry SODASORB® LF with fresh absorbent if high fresh gas flow rates have been left on for an extended period of time when the anesthesia machine has not been in use.
Avoid prolonged storage under direct ultraviolet light since this depletes dye contained in Indicator SODASORB® LF.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

EXPOSURE GUIDELINES (US)

Ingredient	ACGIH TLV			OSHA PEL			
	TWA	STEL	Ceiling	TWA	STEL	Ceiling	Substance Specific and Mineral Dust PELs
Calcium hydroxide	5 mg/m3 TWA	-	-	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	-	-	-
Sodium hydroxide	-	-	2 mg/m3 Ceiling	2 mg/m3 TWA	-	-	-

EXPOSURE GUIDELINES (CANADA)

Employers should consult local Provincial regulatory limits for exposure guidelines which may vary locally.

Engineering Controls:

Keep all SODASORB® LF that has been used with highly flammable anesthetics away from heat, sparks, and open flames, as residual amounts of these materials will be present.

Personal Protective Equipment:

Respiratory Protection: Wear approved respiratory protection to prevent employee exposure from exceeding the limits specified.
Skin Protection: Rubber or other impervious gloves should be worn to prevent skin contact.
Eye Protection: Safety goggles should be worn to prevent eye contact.
Work/Hygienic Practices: Use good personal hygiene practices.

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance/Odor:	White to blue-white odorless granules
Odor Threshold: (ppm)	Not Determined
pH:	Not Applicable
Vapor Pressure: (Mm Hg)	Not Applicable
Vapor Density: (Air = 1)	Not Applicable
Solubility In Water: (%w/w)	Slight
Specific Gravity: (Water = 1)	Not Applicable
Evaporation Rate:	Not Applicable
Boiling Point:	Not Applicable
Freezing Point:	32° F (0°C)
Melting Point:	Not Applicable
Density: (g/ml)	Not Applicable
Volatiles (including water) % by Weight:	≤ 14% as moisture loss
O/W Partition Coefficient:	Not Determined
Volatile Organic Content:(lb/gal less water)	Not Applicable
Volatile Organic Content:(kg/l less water)	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions To Avoid:	None known for this product.
Hazardous Polymerization:	Will not polymerize.
Hazardous Decomposition Products:	None known for this product. May react with chloroform slightly, producing sodium formate, carbon monoxide and phosgene. May react with trichloroethylene, producing dichloroacetylene, carbon monoxide and phosgene.

SECTION 11 - TOXICOLOGICAL INFORMATION

<u>Ingredient(No data unless listed.)</u>	<u>CAS Number</u>	<u>LD50 and LC50</u>
Calcium hydroxide	001305-62-0	Oral LD50 Rat: 7340 mg/kg
Sodium hydroxide	001310-73-2	Dermal LD50 Rabbit: 1350 mg/kg

SODASORB was determined to be non-corrosive using the InVitro International CORROSITEX test protocol to determine corrosivity.

Carcinogenicity:

Ingredient	IARC Group 1	IARC Group 2A	IARC Group 2B	NTP Known	NTP Suspect	OSHA
Calcium hydroxide	No	No	No	No	No	No

Mutagenicity:	Not applicable.
Teratogenicity:	Not applicable.
Reproductive Toxicity:	Not applicable.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate:	No data available for product.
Ecotoxicity:	No data available for product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Procedures:
Unused Sodasorb is not a hazardous waste as defined in the United States 40 Code of Federal Regulations Section 261.3. Disposal of used Sodasorb must be determined by the end user in compliance with federal, state, provincial, and local regulations. Review State Hazardous Waste Regulations, as some states classify this product as a corrosive waste. Specific disposal methods vary with the chemical (e.g., anesthetic agents, acid-based vapors, etc.) or biological agents used with the absorbent by the end user.

SECTION 14 - TRANSPORTATION INFORMATION

Proper Shipping Name:	Not Applicable
UN/NA Number:	Not Applicable
Domestic Hazard Class:	Nonhazardous
Surface Freight Classification:	Compounds, Gas Absorbing
Label/Placard Required:	Not Applicable

SECTION 15 - REGULATORY INFORMATION

REGULATORY CHEMICAL LISTS:

CERCLA (Comprehensive Response Compensation and Liability Act):

(None present unless listed below)

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>CERCLA RQ</u>
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SARA Title III (Superfund Amendments and Reauthorization Act)

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	Yes
Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No

302 Reportable Ingredients (Identification Threshold 1%):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>SARA 302 TPQ</u>
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313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
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WHMIS Classification(s): D2 B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.

State Regulatory Information:

California Proposition 65: WARNING! This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

Massachusetts Hazardous Substance List(Identification threshold 0.0001%(1ppm)):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
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New Jersey Hazardous Substance List(Identification threshold (0.1%)):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
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Pennsylvania Hazardous Substance List(Identification threshold 0.01%):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
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CHEMICAL INVENTORY STATUS:

All chemicals in this product are listed or exempt from listing in the following countries:

US	CANADA		EUROPE	AUSTRALIA	JAPAN	KOREA	PHILIPPINES
TSCA	DSL	NDSL	EINECS/ELINCS	AICS	ENCS	ECL	PICCS
Yes	Yes	No	Yes	Yes	Not Determined	Not Determined	Not Determined

SECTION 16 – OTHER INFORMATION

Non-Hazardous Ingredient Disclosure:

<u>Chemical Name</u>	<u>CAS Number</u>
Water	007732-18-5
Calcium Chloride	010043-52-4

Prepared by: EH&S Department

Approved by: EH&S Department

Approved Date: 06/13/2007

Disclaimer:

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."