Safety Data Sheet
acc. to OSHA HCS

Printing date 05/29/2014 Reviewed on 05/29/2014

1 Identification

· **This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article.**
· **Product identifier:** Gas purifying filter

· **Trade name:** CRS Carbon Dioxide-Removing Purifier

· **Article number:**
202212-B, 202212-SS, 202212R-B, 202212R-SS, 202213-B, 202213-SS, 202213R-B, 202213R-SS, 202212XL-B, 202212XL-SS, 202212XLR-B, 202212XLR-SS, 202213XL-B, 202213XL-SS, 202213XLR-B, 202213XLR-SS, 202350, 202352, 202808, 202814, 202838
· **SDS number:** 991037
· **Application of the substance / the mixture** Gas purification

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Chromatography Research Supplies, Inc.
2601 Technology Drive
Louisville, KY 40299 USA
msds@chromres.com

· **Information department:** Product safety department
· **Emergency telephone number:**
During normal opening times: +1 (502) 491-6300
CHEMTREC (24 Hours) 800-424-9300 (U.S.A.)
When Calling from Outside the U.S.A., Dial Your Access Code for the U.S.A., then 1, then 703-527-3887.

2 Hazard(s) identification

· **Classification of the substance or mixture**


GHS05

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**


Corrosive

Causes severe burns.
· **Information concerning particular hazards for human and environment:**
The product has to be labeled due to the calculation procedure of international guidelines.
· **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**


GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Sodium hydroxide

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· **Hazard statements**
Causes severe skin burns and eye damage.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not breathe dust/fume/gas/mist/vapours/spray.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 or doctor/physician.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 4
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 4
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** *Mixture of the substances listed below with nonhazardous additions.*

· **Dangerous components:**			
1310-73-2	*Sodium hydroxide*	*C R35* *Skin Corr. 1A, H314*	*60-90%*
1344-28-1	*Aluminum oxide*		*0-20%*
1305-78-8	*Calcium oxide*	*Xi R41* *Eye Dam. 1, H318*	*0-10%*
14808-60-7	*Quartz (SiO2)*		*<2%*

· **Additional Components**		
7631-86-9	*Silicon dioxide, chemically prepared*	*0-20%*
1318-00-9	*Non-fibrous silicate*	*5-15%*
1313-59-3	*Sodium oxide*	*0-10%*

4 First-aid measures

· **Description of first aid measures**
· **General information:** *Immediately remove any clothing soiled by the product.*

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· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** No special measures required.
· **Methods and material for containment and cleaning up:**
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
• Do not open cartridge.
Thorough dedusting.
Prevent formation of dust.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

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· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
1310-73-2 Sodium hydroxide	
PEL	Long-term value: 2 mg/m³
REL	Short-term value: C 2 mg/m³
TLV	Short-term value: C 2 mg/m³
1344-28-1 Aluminum oxide	
PEL	Long-term value: 15*; 15** mg/m³ *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m³ *Total dust **Respirable fraction
TLV	Long-term value: 1* mg/m³ as Al; *as respirable fraction
1305-78-8 Calcium oxide	
PEL	Long-term value: 5 mg/m³
REL	Long-term value: 2 mg/m³
TLV	Long-term value: 2 mg/m³
14808-60-7 Quartz (SiO2)	
PEL	see Quartz listing
REL	Long-term value: 0.05* mg/m³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m³ *as respirable fraction

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Solid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not determined.
· **Ignition temperature:**	not applicable
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not applicable.
· **Density at 20 °C (68 °F):**	0.8 g/cm³ (6.676 lbs/gal)
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Soluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Solvent content:**	
Organic solvents:	0.0 %

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· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
1310-73-2 Sodium hydroxide		
Oral	LD50	2000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Strong caustic effect on skin and mucous membranes.
· **on the eye:** Strong caustic effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
7631-86-9	Silicon dioxide, chemically prepared	3
14808-60-7	Quartz (SiO2)	1

· **NTP (National Toxicology Program)**		
14808-60-7	Quartz (SiO2)	K

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Must not reach bodies of water or drainage ditch undiluted or unneutralized.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.

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· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1823
· **UN proper shipping name**	
· **DOT**	Sodium hydroxide, solid, mixture
· **ADR**	1823 Sodium hydroxide, solid, mixture
· **IMDG, IATA**	SODIUM HYDROXIDE, SOLID, mixture
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	8 Corrosive substances.
· **Label**	8
· **ADR, IMDG, IATA**	
· **Class**	8 Corrosive substances
· **Label**	8
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances
· **Danger code (Kemler):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Alkalis
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

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· **UN "Model Regulation":** UN1823, Sodium hydroxide, solid, mixture, 8, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

1344-28-1	Aluminum oxide

· **TSCA (Toxic Substances Control Act):**

1310-73-2	Sodium hydroxide
7631-86-9	Silicon dioxide, chemically prepared
1344-28-1	Aluminum oxide
1305-78-8	Calcium oxide
1313-59-3	Sodium oxide
14808-60-7	Quartz (SiO2)

· **Proposition 65**

· **Chemicals known to cause cancer:**

14808-60-7	Quartz (SiO2)

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

1344-28-1	Aluminum oxide	A4
14808-60-7	Quartz (SiO2)	A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7	Quartz (SiO2)

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS05

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· **Signal word** Danger

· **Hazard-determining components of labeling:**
Sodium hydroxide
· **Hazard statements**
Causes severe skin burns and eye damage.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not breathe dust/fume/gas/mist/vapours/spray.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 or doctor/physician.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department
· **Contact:** Product Safety Department
· **Date of preparation / last revision** 05/29/2014 / -
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent