Safety Data Sheet
acc. to OSHA HCS

Printing date 08/19/2019
Reviewed on 08/19/2019

*
1 Identification

· *This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article except as noted in section 15 where components of the filter body are also considered. Section 15 includes REACH and Proposition 65 warnings regarding the presence of Lead in brass alloys in the fittings or fitting plugs.*
· **Product identifier:**

· **Trade name: CRS ZPure™ Glass PolyGas I Purifier**
· **Part numbers:**

202314-B	202314R-B-QC	202314R-SS	202314-SS-QC	202315R-B	202315R-SS-QC
202314-B-QC	202314RP-B-QC	202314R-SS-QC	202315-B	202315R-B-QC	202315-SS
202314R-B	202314RP-SS-QC	202314-SS	202315-B-QC	202315R-SS	202315-SS-QC

· **SDS number:** *991090*
· **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
sds@chromres.com

· **Information department:** *Product safety department*
· **Emergency telephone number:**
From U.S.A., Canada, Puerto Rico and U.S. Virgin Islands
+1-502-491-6300 8 am - 5 pm East Coast U.S. Time
+1-800-255-3924 ChemTel (24 Hours) Contract Number MIS3660977
From Outside the U.S.A., Canada, Puerto Rico or U.S. Virgin Islands
+01-813-248-0585 ChemTel (24 Hours)
Additional In-Country numbers:
China: 400-120-0751; Brazil: 0-800-591-6042; India: 000-800-100-4086; Mexico: 01-800-099-0731.

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2 Hazard(s) identification

· **Classification of the substance or mixture**


GHS08

Carc. 1A *H350 May cause cancer.*
STOT RE 2 *H373 May cause damage to organs through prolonged or repeated exposure.*


GHS09

Aquatic Acute 1 *H400 Very toxic to aquatic life.*
Aquatic Chronic 1 *H410 Very toxic to aquatic life with long lasting effects.*


GHS07

Skin Sens. 1 *H317 May cause an allergic skin reaction.*

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

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· **Hazard pictograms**

GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Manganese dioxide
nickel monoxide
tricobalt tetraoxide
Quartz (SiO2)

· **Hazard statements**
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Collect spillage.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = *1
Fire = 0
Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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3 Composition/information on ingredients

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

· **Dangerous components:**		
1344-28-1	Aluminum oxide	0-75%
7440-44-0	Carbon Combustible Dust	10-30%
1313-13-9	Manganese dioxide STOT RE 2, H373; Acute Tox. 4, H302; Acute Tox. 4, H332	5-15%
1317-38-0	copper oxide Aquatic Acute 1, H400; Aquatic Chronic 1, H410	1-10%
1313-99-1	nickel monoxide Carc. 1A, H350; STOT RE 1, H372; Skin Sens. 1, H317; Aquatic Chronic 4, H413	<1%
1308-06-1	tricobalt tetraoxide Carc. 1B, H350; Skin Sens. 1, H317	<1%
14808-60-7	Quartz (SiO2) Carc. 1A, H350	<2%
10034-96-5	Manganese(II)-sulfate-Monohydrate	<0.1%

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
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.
· **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:**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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· **Methods and material for containment and cleaning up:**
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.

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7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
• Do not open cartridge.
Ensure good ventilation/exhaustion at the workplace.
· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **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.

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8 Exposure controls/personal protection

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

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

1344-28-1 Aluminum oxide	
PEL	Long-term value: 15*; 5** mg/m³ *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m³ as Al; *as respirable fraction
1313-13-9 Manganese dioxide	
PEL	Ceiling limit value: 5 mg/m³ as Mn
REL	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³ as Mn
TLV	Long-term value: 0.02* 0.1* mg/m³ as Mn; *respirable **inhalable fraction

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1313-99-1 nickel monoxide	
PEL	Long-term value: 1 mg/m³ as Ni
REL	Long-term value: 0.015 mg/m³ as Ni; See Pocket Guide App. A
TLV	Long-term value: 0.2 mg/m³ as Ni; inhalable fraction

1308-06-1 tricobalt tetraoxide	
PEL	Long-term value: 0.1* mg/m³ as Co; *for metal dust and fume
REL	Long-term value: 0.05 mg/m³ as Co; metal dust & fume
TLV	Long-term value: 0.02 mg/m³ as Co, BEI

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

10034-96-5 Manganese(II)-sulfate-Monohydrate	
PEL	Ceiling limit value: 5 mg/m³ as Mn
REL	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³ as Mn
TLV	Long-term value: 0.02* 0.1* mg/m³ as Mn; *respirable **inhalable fraction

· **Ingredients with biological limit values:**

1308-06-1 tricobalt tetraoxide	
BEI	15 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Cobalt (background) 1 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Cobalt (background, semi-quantitative)

· **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.
Store protective clothing separately.

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· **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.
· **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

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	*Granulate*
Color:	*According to product specification*
· **Odor:**	*Odorless*
· **Odor threshold:**	*Not determined.*
· **pH-value:**	*Not applicable.*
· **Change in condition**	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*2980 °C (5,396 °F)*
· **Flash point:**	*Not applicable.*
· **Flammability (solid, gaseous):**	*Not determined.*
· **Ignition temperature:**	*> 220 °C (>428 °F)*
· **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.*

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· **Vapor pressure:**	Not applicable.
· **Density:**	Not determined.
· **Relative density**	Not determined.
· **Vapor density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Insoluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Solvent content:**	
Organic solvents:	0.0 %
VOC content:	0.0 g/l / 0.00 lb/gl
Solids content:	100.0 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **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:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
1318-02-1	Zeolite	3
1313-99-1	nickel monoxide	1
1308-06-1	tricobalt tetraoxide	2B
14808-60-7	Quartz (SiO2)	1

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· **NTP (National Toxicology Program)**		
1313-99-1	nickel monoxide	K
14808-60-7	Quartz (SiO2)	K

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **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.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	Void
· **UN proper shipping name**	
· **DOT, ADR, IMDG, IATA**	Void
· **Transport hazard class(es)**	
· **DOT, ADR, IMDG, IATA**	
· **Class**	Void
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Not applicable.

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· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	• Label 6.1 required for single packaging and combination packagings containing inner packagings with Dangerous Goods > 5 L for liquids or > 5 kg for solids.
· **UN "Model Regulation":**	Void

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
REACH Notification: In conformance to REACH Regulation (EC) No 1907/2006 of the European Parliament and of the Council, this is notification that purifiers made by CRS include components machined from copper alloys containing lead (Brass) above the 0.1% w/w threshold, where it is an integral part of the Article. Included products are the fittings and / or fitting plugs. Copper alloys such as brass in it's solid form and under normal conditions do not present an inhalation, ingestion or contact health hazard of the regulated substance. Operations such as welding, excessive heating or dust generating activities, such as machining, may create a health hazard. Under normal use, CRS' products are not designed or anticipated to release these regulated substances.

· **Sara**

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

· **Section 313 (Specific toxic chemical listings):**	
1344-28-1	Aluminum oxide
1317-38-0	copper oxide
1313-99-1	nickel monoxide
1308-06-1	tricobalt tetraoxide
10034-96-5	Manganese(II)-sulfate-Monohydrate

· **TSCA (Toxic Substances Control Act):**	
1344-28-1	Aluminum oxide
7440-44-0	Carbon
1313-13-9	Manganese dioxide
1317-38-0	copper oxide
1327-43-1	Magnesium aluminosilicate clay
1313-99-1	nickel monoxide
1308-06-1	tricobalt tetraoxide
14808-60-7	Quartz (SiO2)

· **Proposition 65**

WARNING: This product can expose you to chemicals including quartz (SiO2), which is known to the State of California to cause cancer, and lead, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

· **Chemicals known to cause cancer:**	
1313-99-1	nickel monoxide
14808-60-7	Quartz (SiO2)

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· **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)**

1313-13-9	Manganese dioxide	D
10034-96-5	Manganese(II)-sulfate-Monohydrate	D

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

1344-28-1	Aluminum oxide	A4
1313-99-1	nickel monoxide	A1
1308-06-1	tricobalt tetraoxide	A3
14808-60-7	Quartz (SiO2)	A2

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

1313-99-1	nickel monoxide
14808-60-7	Quartz (SiO2)

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

GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Manganese dioxide
nickel monoxide
tricobalt tetraoxide
Quartz (SiO2)
· **Hazard statements**
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).

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Get medical advice/attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Collect spillage.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**
· **Additional classification according to Decree on Hazardous Materials:**
Carcinogenic hazardous material group III (dangerous).

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
· **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 SDS:** *Product safety department*
· **Contact:** *Product Safety Department*
· **Date of preparation / last revision** *08/19/2019 / -*
· **Abbreviations and acronyms:**
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)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4
· **** Data compared to the previous version altered.***