

Section 1. Identification

Product identifier used on the label: **VITROBOND® HIGH STRENGTH CAPPING COMPOUND CRUSHED**

Product Code(s): **TBD**

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:

- Sulfur Cement
- Use Pattern: Professional Use Only
- Recommended Restrictions: None known.

Chemical family: **Mixture**

Name, address, and telephone number of the supplier:

ELE International Instruments Ltd.

12, Carters Lane, Kiln Farm, Milton Keynes, MK11 3ER

Name, address, and telephone number of the manufacturer:

Refer to supplier

Supplier's Telephone:

T +44 (0) 208 133 5565 | M +44 (0) 7931 949692

24 Hr. Emergency Telephone: Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

Section 2. Hazards Identification

Classification of the chemical

Gray solid.

Mild sulfur odor.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification :

Skin Corrosion/Irritation - Category 2

Label elements

Hazard pictogram(s)



Signal Word **WARNING!**

Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause respiratory tract irritation. May cause eye irritation. May cause an allergic respiratory reaction (e.g. asthma) in some hypersensitive individuals. May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals.

Section 3. Composition/Information On Ingredients

Chemical name	Common name and synonyms	CAS #	Concentration
Silica	Crystalline silica, quartz	14808-60-7	40.0 - 60.0
Sulfur	Sulphur	7704-34-9	40.0 - 60.0
Carbon black	Acetylene black	1333-86-4	0.1 - 1.0
At 285°F (141°C) [ie. for normal use], fumes may contain trace amounts of:			
Hydrogen sulfide	Dihydrogen sulfide H ₂ S	7783-06-4	Trace

Section 4. First-Aid Measures

Description of first aid measures:

Ingestion: DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before re-use.

Eye contact: For eye contact, flush with running water for at least 15 minutes. If eye irritation persists, get medical advice/attention.

Most important symptoms and effects, both acute and delayed:

Causes skin irritation. Contact may cause redness, swelling and a painful sensation. May cause eye irritation. Symptoms may include stinging and tearing.

May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals.

Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

Section 5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: Carbon dioxide (CO₂); dry chemical; alcohol-resistant foam; water fog.

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability: Not considered flammable.

Flammability classification (OSHA 29 CFR 1910.106): Not flammable

Hazardous combustion products: Carbon dioxide and carbon monoxide. sulfur oxides Hydrogen sulfide

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to the area until completion of clean-up. Do not breathe fumes or vapors. Refer to protective measures listed in Sections 7 and 8.

Environmental precautions: Do not allow material to contaminate groundwater system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. If the product is heated and molten, allow the product to cool off before cleaning up. Absorb spillage to prevent material damage. Sweep up and shovel into suitable containers for disposal. Pick up and transfer to properly labeled containers. Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

Section 7. Handling And Storage

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Do not breathe fumes or mists. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. At 141°C (285°F) toxic hydrogen sulfide fumes may be present.

Conditions for safe storage: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking.

Incompatible materials: Oxidizing agents, mineral acids

Section 8. Exposure Controls / Personal Protection

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Silica	0.025 mg/m ³ (respirable fraction)	N/Av	0.1 mg/m ³ (final rule limit)	N/Av
Sulfur	N/Av	N/Av	N/Av	N/Av
Carbon black	3.0 mg/m ³ (inhalable)	N/Av	3.5 mg/m ³	N/Av
Hydrogen sulfide	1 ppm	5 ppm	N/Av	N/Av

Exposure controls

Ventilation and engineering measures: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection: If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection: Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection: Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles

Other protective equipment: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations: Do not breathe fumes or vapors. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

Section 9. Physical And Chemical Properties

Appearance: Gray solid

Odor: Sulfur odor

Odor threshold: No information available

pH: No information available

Melting/Freezing point: No information available

Initial boiling point and boiling range: >427°C (800°F)

Flashpoint: 207°C (405°F)

Flashpoint (Method): Cleveland closed cup

Evaporation rate (BuAe = 1): No information available

Flammability (solid, gas): Not applicable

Lower flammable limit (% by vol.): Not applicable

Upper flammable limit (% by vol.): Not applicable

Oxidizing properties: None known

Explosive properties: Not explosive

Vapor pressure: Low

Vapor density: N/Ap

Relative density / Specific gravity: 2.15-2.30

Solubility in water: Slightly soluble

Other solubility(ies): No information available

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution: No information available

Auto-ignition temperature: No information available

Decomposition temperature: No information available

Viscosity: 4000 cps maximum @ 275°F to 300°F (preferred temperature 275°F to 285°F)

Volatiles (% by weight): none

Volatile organic Compounds (VOC's): No information available

Absolute pressure of container: Not applicable

Flame projection length: Not applicable

Other physical/chemical comments: No additional information

Section 10. Stability And Reactivity

Reactivity: Not normally reactive.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

Incompatible materials: Oxidizing agents, mineral acids.

Hazardous decomposition products: At 141°C (285°F) toxic hydrogen sulfide fumes may be present.

Section 11. Toxicological Information

Information on likely routes of exposure:

Routes of entry inhalation: YES

Routes of entry skin & eye: YES

Routes of entry Ingestion: YES

Routes of exposure skin absorption: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation: May cause respiratory irritation. Symptoms may include coughing and sneezing.

Sign and symptoms ingestion: Ingestion may cause severe irritation to the mouth, throat and stomach.

Sign and symptoms skin: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin Irritation - Category 2 Causes skin irritation.

Sign and symptoms eyes: May cause eye irritation. Symptoms may include tearing, redness and discomfort.

Potential Chronic Health Effects: May cause damage to the lungs through prolonged or repeated exposure if inhaled. Prolonged exposure may cause cracking of the skin, dermatitis, possible allergenic response and sensitization.

Mutagenicity: Not expected to be mutagenic in humans.

Carcinogenicity: This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Contains crystalline silica. Crystalline silica is classified as carcinogenic by IARC (Group 1), the ACGIH (Category A2), and the NTP (Group 1 - Known human carcinogen). However, crystalline silica is listed as causing cancer only when its particles are airborne and of respirable size. Airborne respirable particles are not expected for this product, based on the intended use and form of the product as a whole.

This product contains Carbon black, an IARC Group 2B carcinogen. However, the Carbon black used in this product is in a non-respirable form, and under normal conditions of use, Carbon black cannot become airborne. The carcinogenic effects of Carbon black are therefore not applicable to this product.

Reproductive effects & Teratogenicity: This product is not expected to cause reproductive or developmental effects.

Sensitization to material: Not expected to be a respiratory sensitizer. May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals.

Specific target organ effects: The substance or mixture is not classified as a specific target organ toxicant, single exposure.

The substance or mixture is not classified as a specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure: Pre-existing skin and respiratory disorders.

Synergistic materials: No information available.

Toxicological data: See below for individual ingredient acute toxicity data.

Chemical name	LC50(4hr)	LD50	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
Silica	N/Av	N/Av	N/Av
Sulfur	> 9.23 mg/L	> 3000 mg/kg	> 2000 mg/kg
Carbon black	6.75 mg/L (dust)	> 10 000 mg/kg	> 3000 mg/kg
At 285°F (141°C) [i.e. for normal use], fumes may contain trace amounts of the following chemical:			
Hydrogen sulfide	0.701 mg/L 4 h	N/Av	N/Av

Other important toxicological hazards: None reported by the manufacturer.

Section 12. Ecological Information

Ecotoxicity: Do not release, unmonitored, into the environment. See the following tables for individual ingredient ecotoxicity data.

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Silica	14808-60-7	N/Av	N/Av	N/Av
Sulfur	7704-34-9	>0.005 mg/L (Rainbow trout) (No effects)	N/Av	None.
Carbon black	1333-86-4	> 1000 mg/L (Zebra fish)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Silica	14808-60-7	N/Av	N/Av	N/Av
Sulfur	7704-34-9	>0.005 mg/L(Water flea) (No effects)	N/Av	None.
Carbon black	1333-86-4	> 5600 mg/L/24hr (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Silica	14808-60-7	N/Av	N/Av	N/Av
Sulfur	7704-34-9	N/Av	N/Av	N/Av
Carbon black	1333-86-4	> 10 000 mg/L/72hr (Green algae)	N/Av	None.

Persistence and degradability: No data is available on the product itself.

Bioaccumulation potential: No data is available on the product itself.

Components	Partition coefficient n-octanol/ater (log Kow)	Bio concentration factor (BCF)
Sulfur (CAS 7704-34-9)	N/Av	N/Av
Hydrogen sulfide (CAS 7783-06-4)	0.45 at 25°C	no bioaccumulation expected

Mobility in soil: The product itself has not been tested.

Other Adverse Environmental effects: None known.

Section 13. Disposal Considerations

Handling for Disposal: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in Sections 7 and 8.

Methods of Disposal: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

Section 14. Transportation Information

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT 49CFR/DOT Additional information	None.	Not regulated.	not regulated	none	☉
TDG TDG Additional information	None.	Not regulated.	not regulated	none	☉
IMDG IMDG Additional information	None.	Not regulated.	not regulated	none	☉
ICAO/IATA ICAO/IATA Additional information	None.	Not regulated.	not regulated	none	☉

Special precautions for user: Appropriate advice on safety must accompany the package.

Environmental hazards: See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: This information is not available.

Section 15 – Regulatory Information

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Silica	14808-60-7	Yes	N/Ap	N/Av	No	N/Ap
Sulfur	7704-34-9	Yes	N/Ap	N/Av	No	N/Ap
Carbon black	1333-86-4	Yes	None.	None.	No	N/Ap
Hydrogen sulfide	7783-06-4	Yes	100 lb/ 45.4 kg	500 lb TPQ	No	1%

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Silica	14808-60-7	Yes	airborne particles of	No	Yes	Yes	Yes	Yes	Yes
Sulfur	7704-34-9	No	N/Ap	Yes	Yes	No	Yes	Yes	Yes
Carbon black	1333-86-4	Yes	ne, unbound particle	Yes	Yes	Yes	Yes	Yes	Yes
Hydrogen sulfide	7783-06-4	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA): All ingredients are present on the DSL.

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

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

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
Silica	14808-60-7	238-878-4	Present	Present	(1)-548	KE-29983	Present	HSR003125
Sulfur	7704-34-9	231-722-6	Present	Present	Present	KE-32688	Present	HSR001284
Carbon black	1333-86-4	215-609-9	Present	Present	(5)-3328; (5)-5222	KE-04682	Present	HSR002801
Hydrogen sulfide	7783-06-4	231-977-3	Present	Present	(1)-434; (1)-434; (1)-434	KE-20209	Present	HSR001061

Section 16. Other Information

Legend: ACGIH: American Conference of Governmental Industrial Hygienists

AICS: Australian Inventory of Chemical Substances

ATE: Acute Toxicity Estimate

CA: California

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

CSA: Canadian Standards Association

DOT: Department of Transportation

ECHA: European Chemicals Agency

ECOTOX: U.S. EPA Ecotoxicology Database

EINECS: European Inventory of Existing Commercial chemical Substances

ENCS: Existing and New Chemical Substances

EPA: Environmental Protection Agency

HSDB: Hazardous Substances Data Bank

IARC: International Agency for Research on Cancer

IBC: Intermediate Bulk Container

IECSC: Inventory of Existing Chemical Substances

IMDG: International Maritime Dangerous Goods

IOC: Inventory of Chemicals

IUCLID: International Uniform Chemical Information Database

KECI: Korean Existing Chemicals Inventory

KECL: Korean Existing Chemicals List

LC: Lethal Concentration

LD: Lethal Dose

MA: Massachusetts

MN: Minnesota

N/Ap: Not Applicable

N/Av: Not Available

NIOSH: National Institute of Occupational Safety and Health

NJ: New Jersey

NOEC: No observable effect concentration

NTP: National Toxicology Program

OECD: Organisation for Economic Co-operation and Development

OSHA: Occupational Safety and Health Administration

PA: Pennsylvania

PEL: Permissible exposure limit

PICCS: Philippine Inventory of Chemicals and Chemical Substances

RCRA: Resource Conservation and Recovery Act

RI: Rhode Island

RTECS: Registry of Toxic Effects of Chemical Substances SARA: Superfund Amendments and Reauthorization Act

SDS: Safety Data Sheet / Material Safety Data Sheet

STEL: Short Term Exposure Limit

TDG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values

TSCA: Toxic Substance Control Act

TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

References:

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
2. International Agency for Research on Cancer Monographs, searched 2015.
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - October 2012 version.
6. California Proposition 65 List - December 26, 2014 version

Preparation Date (dd/mm/yyyy): 19/11/2024

Other special considerations for handling: Provide adequate information, instruction and training for operators.

<p>Prepared for: 12, Carters Lanes, Kiln Farm, Milton Keynes, MK11 3ER</p>	
<p>Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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