



Atlas Minerals & Chemicals, Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171

VITROBOND®

SDS Preparation Date (mm/dd/yyyy): 06/14/2019

SAFETY DATA SHEET

| SECTION 1. IDENTIFICATION | [| | |
|--|------|--|---|
| Product identifier used on label | | | |
| : | : | VITROBOND® | |
| Product code(s) | : | 320303 | |
| Recommended use of the chemi | ical | and restrictions on use | |
| - | - | Sulfur Cement Use pattern: Professional use onl Recommended restrictions: None | |
| Chemical family : | : | Mixture | |
| Name, address, and telephone n Atlas Minerals and Chemicals In 1227 Valley Road Mertztown, PA, USA 19539 | | ber of the supplier: | Name, address, and telephone number of the manufacturer: Refer to supplier |
| Supplier's Telephone # | : | 610-682-7171 | |
| 24 Hr. Emergency Tel # | : | Chemtrec 1-800-424-9300 (Within | Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.) |

SECTION 2. HAZARD IDENTIFICATIONS

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!

Hazard statement(s)

Causes skin irritation.

Contains Sulfur.

May liberate trace amounts of Hydrogen Sulfide and/or sulfur dioxide gases when heated.

Vapors from heated material may cause eye or respiratory irritation.

Contact with heated material causes thermal burns.

Precautionary statement(s)

Wash thoroughly after handling.

Provide adequate ventilation when melting.

Avoid prolonged breathing of vapor.

Wear a respirator with organic vapor cartridges if exposure limits are exceeded.

Wear protective equipment, such as gloves and face shields, when handling heated material.

Keep containers upright to prevent leakage. In case of spillage of heated material, let cool, remove and dispose of in accordance with all applicable local, state and federal environmental regulations.

After using, wash hands thoroughly before eating, drinking or smoking.

If overcome by inhalation of vapors, remove to fresh air. If breathing stops, begin artificial respiration. Get medical attention. Page 1 of 10



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Atlas Minerals & Chemicals, Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171

Page 2 of 10

SAFETY DATA SHEET

In case of skin contact with heated material, immerse the affected area in cold water immediately and keep immersed. Do not attempt to remove the material. Get medical attention immediately.

In case of eye contact with heated material, flush with water and get medical attention immediately.

If contact is with cold material, wash with soap and water. Get medical attention if irritation develops.

IF ON SKIN: Wash with plenty of soap and water.

Take off contaminated clothing and wash before re-use. If skin irritation occurs, get medical advice/attention.

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

Mixture

| Chemical name | <u>Common Name and</u> <u>Synonyms</u> | <u>CAS #</u> | 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) [i.e. for normal use], fumes may contain trace amounts of the following chemical: | | | | | |
| Hydrogen sulfide | Dihydrogen sulfide H2S | 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.

Specific hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Page 3 of 10

SAFETY DATA SHEET

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 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 ground water 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 product is heated and molten, allow 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 labelled 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

Exposure Limits:

| Chemical name | ACGIH | TLV | OSHA PEL | |
|---------------------|--|-------------|--|-------------|
| <u>Chemica name</u> | <u>TWA</u> | <u>STEL</u> | <u>TWA</u> | <u>STEL</u> |
| Silica | 0.025 mg/m ³ (measured as respirable fraction of the aerosol) | N/Av | 0.05 mg/m³ (respirable dust) | N/Av |
| Sulfur | N/Av | N/Av | N/Av | N/Av |
| Carbon black | 3.0 mg/m ³ (measured as respirable fraction of the aerosol) | N/Av | 3.5 mg/m ³ | N/Av |
| Hydrogen sulfide | 1 ppm | 5 ppm | 20 ppm (50 ppm – 10' peak once per 8hr shift) | N/Av |



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Page 4 of 10

SAFETY DATA SHEET

| 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 consideration | S | | | |
| | : Do not breathe dust or fume. 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. |
| рН | : | No information available. |
| Melting/freezing point | : | No information available. |
| Initial boiling point and boiling | y rang | ge |
| | : | >427°C (800°F) |
| Flash point | : | 207°C (405°F) |
| Flash point (Method) | : | Cleveland closed cup |
| Evaporation rate (BuAe = 1) | : | No information available. |
| Flammability (solid, gas) | : | Not applicable. |
| Lower flammable limit (% by v | ol.) | |
| | : | Not applicable. |
| Upper flammable limit (% by ve | ol.) | |
| | : | Not applicable. |
| Oxidizing properties | : | None known. |
| Explosive properties | : | Not explosive. |
| Vapor pressure | : | Low |
| Vapor density | : | Ν/Αρ |
| Relative density / Specific grav | vity | |
| | : | 2.15-2.30 |
| Solubility in water | : | Slightly soluble. |
| Other solubility(ies) | : | No information available. |
| Partition coefficient: n-octano | ol/wat | er or Coefficient of water/oil distribution |
| | : | No information available. |
| Auto-ignition temperature | : | No information available. |
| | | |



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Atlas Minerals & Chemicals, Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171

Page 5 of 10

SAFETY DATA SHEET

| Decomposition temperature | : | No information available. |
|------------------------------------|-----|---|
| Viscosity | : | 400 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 comme | nts | |
| | : | No additional information. |

| SECTION 10. STABILITY AND REACTIVITY | | | |
|--------------------------------------|--|--|--|
| Reactivity | : Not normally reactive. | | |
| Chemical stability | : Stable under normal conditions. | | |
| Possibility of hazardous rea | ctions | | |
| | : 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 | expo | sure: |
|----------------------------------|-------|--|
| Routes of entry inhalation | | YES |
| Routes of entry skin & eye | : | YES |
| Routes of entry ingestion | : | YES |
| Routes of exposure skin absor | ptior | l |
| | : | YES |
| Potential Health Effects: | | |
| Signs and symptoms of short-t | erm | (acute) exposure |
| Sign and symptoms Inhalation | n | |
| | : | 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 | S | |
| | : | 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 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 |



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Atlas Minerals & Chemicals, Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171

Page 6 of 10

SAFETY DATA SHEET

| | is listed as causing cancer only when it's particles are airborne and of a 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 & Teratog | enicity |
| | : 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 specific target organ toxicant, single exposure. The substance or mixture is not classified as 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 | <u>LC-50 (4hr)</u> | <u>LD-50</u> | | |
|--------------------------------------|------------------------------------|------------------------------|------------------|--|
| | Inh, Rat | (<u>Oral, Rat</u>) | (Dermal, Rabbit) | |
| 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 us | e], fumes may contain trace amount | s 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.

Ecotoxicity data:

| Ingredients | CAS # | | Toxicity to Fish | |
|--------------|------------|--|----------------------|----------|
| ingredients | CAS # | <u>LC50 / 96h</u> | <u>NOEC / 21 day</u> | 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) | | |

| Ingredients | CV2 # | | Toxicity to Daphnia | | | |
|--------------|--------------|--|----------------------|----------|--|--|
| Ingredients | <u>CAS #</u> | <u>EC50 / 48h</u> | <u>NOEC / 21 day</u> | 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. | | |



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Page 7 of 10

SAFETY DATA SHEET

| Ingredients | CAS # | | Toxicity to Algae | | | |
|--------------|--------------|------------------------------------|---------------------------|-------|--|--|
| ingredients | <u>CAS #</u> | <u>EC50 / 96h or 72h</u> | NOEC / 96h or 72h M Facto | | | |
| Silica | 14808-60-7 | N/Av | N/Av | N/Av | | |
| Sulfur | 7704-34-9 | N/Av | N/Av | N/Ap | | |
| Carbon black | 1333-86-4 | > 10 000 mg/L/72h (Green algae) | N/Av | None. | | |

Persistence/degradability

: No data is available on the product itself.

Bioaccumulation potential

: No data is available on the product itself.

| <u>Components</u> | <u>CAS #</u> | Partition coefficient n-octanol/water (log Kow) | Bioconcentration Factor (BCF) | | |
|-------------------|--------------|---|--------------------------------------|--|--|
| Sulfur | 7704-34-9 | N/Ap | N/Ap | | |
| Hydrogen sulfide | 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 | None. | Not regulated. | not regulated | none | \bigotimes |
| 49CFR/DOT Additional Information | | | | | 1 |
| TDG | None. | Not regulated. | not regulated | none | \bigotimes |
| TDG Additional Information | | | I | | 1 |
| IMDG | None. | Not regulated. | not regulated | none | \bigotimes |
| IMDG Additional Information | | 1 | | | 1 |



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Atlas Minerals & Chemicals, Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171

Page 8 of 10

SAFETY DATA SHEET

| ICAO/IATA | None. | Not regulated. | not regulated | none | \bigotimes |
|--|------------|---|---------------|------|--------------|
| ICAO/IATA Additional Information | - | | | | |
| Special precaution | s for user | : Appropriate advice on safety must accompany the p | ackage. | | |
| Environmental haz | ards | : 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.

US Federal Information:

Toxic Substances Control Act (TSCA):

| TSCA Inventory Status | : All Ingredients are on TSCA Chemical Inventor | ry |
|-----------------------|---|----|
| Other TSCA Issues | : None | |
| | | |

SARA Title III/CERCLA:

Ingredients with "Reportable Quantities" (RQ's) and/or "Threshold Planning Quantities" (TPQ's):

None.

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SARA 311 Hazard Class:

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

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

| Ingredients | CAS # | CA Proposition 65 | | State "Right to Know" Lists | | | | | |
|------------------|--------------|-------------------|--|-----------------------------|-----|-----|-----------|-----------|-----------|
| ingredients | <u>CA3 #</u> | <u>Listed</u> | Type of Toxicity | <u>CA</u> | MA | MN | <u>NJ</u> | <u>PA</u> | <u>RI</u> |
| Silica | 14808-60-7 | Yes | carcinogen for airborne particles of respirable size | 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 | airborne, unbound particles of respirable size | 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:



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Page 9 of 10

SAFETY DATA SHEET

| Ingredients | CAS # | European EINECS | Australia AICS | Phillipines PICCS | <u>Japan</u> ENCS | Korea KECI/KECL | <u>China</u> IECSC | <u>New Zeland</u> <u>IOC</u> |
|------------------|------------|--------------------|-------------------|----------------------|---------------------------------|--------------------|-----------------------|---------------------------------|
| 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 |
|---|---|
| • | AlCS: 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 |
| | 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: Organization 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 |
| | |
| | |



SDS Preparation Date (mm/dd/yyyy): 06/14/2019

Page 10 of 10

SAFETY DATA SHEET

| | TSCA: Toxic Substance Control Act TWA: Time Weighted Average WHMIS: Workplace Hazardous Materials Identification System | |
|--|---|--|
| References | ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014. International Agency for Research on Cancer Monographs, searched 2015. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015 (Chempendium, HSDB and RTECs). Material Safety Data Sheets from manufacturer. US EPA Title III List of Lists - October 2012 version. California Proposition 65 List – December 26, 2014 version | |
| Preparation Date (mm/dd/yyyy) | | |
| | : 06/14/2019 | |
| Changes from previous version (mm/dd/yyyy) | | |
| | : 04/27/2015 SDS sections updated: 8. EXPOSURE CONTROLS / PERSONAL PROTECTION; 15. REGULATORY INFORMATION | |

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared by: Atlas Minerals and Chemicals Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171



DISCLAIMER

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