

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Product name : Basic Blast Furnace Slag
 Other means of identification : Basic Slag, Furnace Slag

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Multiple Industrial & Commercial Uses

1.3. Details of the supplier of the safety data sheet

Republic Steel
 2633 Eighth Street NE
 Canton, Ohio 44704
 Fax 330-438-5423
 Phone 330-438-5466
<http://www.republicsteel.com/>

1.4. Emergency telephone number

Emergency number : 24 hr. Emergency Contact : Republic Steel
 U.S.A. 330.438.5466
 International +1.330.438.5466

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Carc. 1A H350

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Danger
 Hazard statements (GHS-US) : H350 - May cause cancer
 Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P308+P313 - IF exposed or concerned: Get medical advice/attention
 P405 - Store locked up

2.3. Other hazards

Excessive dust generation may present a dust explosion hazard.

2.4. Unknown acute toxicity (GHS-US)

None of the ingredients are of unknown toxicity.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable – this product is a mixture.

3.2. Mixture

| Name | Product identifier | % | Classification (GHS-US) |
|--------|---------------------|---------|---------------------------------------------|
| Quartz | (CAS No) 14808-60-7 | 0 - 2.5 | Acute Tox. 4 (Oral), H302 Carc. 1A, H350 |

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause cancer by inhalation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials. Fine material should be removed by vacuuming or wet sweeping to minimize dusting. Avoid using compressed air.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area. Do not handle until all safety precautions have been read and understood.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Quartz (14808-60-7) | | |
|---------------------|--------------------------------|------------------------------------------------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.025 mg/m ³ |
| OSHA | OSHA PEL (mg/m ³) | (10 mg/m ³)/(%SiO ₂ +2)(respirable) |

8.2. Exposure controls

| | |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal protective equipment | : Avoid all unnecessary exposure. |
| Hand protection | : Wear protective gloves. |
| Eye protection | : Chemical goggles or safety glasses. |
| Respiratory protection | : If processing of this product generates particulates, local and general ventilation may be necessary to control employee exposures to within applicable limits. If the exposure limits indicated are exceeded, NIOSH approved respirators for protection against dust and/or fume should be worn in accordance with 29 CFR 1910.134. |
| Other information | : Do not eat, drink or smoke during use. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------------------------|---------------------------|
| Physical state | : Solid |
| Appearance | : Stone-like |
| Color | : Light gray to dark dray |
| Odor | : Slight sulfur smell |
| Odor threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : 1482 °C |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : 7.5 - 8.5 |
| Solubility | : Insoluble in water |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Not established.

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10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| Quartz (14808-60-7) | |
|-----------------------------------|---------------------|
| LD50 oral rat | 500 mg/kg |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : May cause cancer. |

| Quartz (14808-60-7) | |
|-----------------------------------------------------|---------------------------------------|
| IARC group | 1 - Carcinogenic to humans |
| National Toxicity Program (NTP) Status | 2 - Known Human Carcinogens |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard | : Not classified |
| Potential Adverse human health effects and symptoms | : No additional information available |
| Symptoms/injuries after inhalation | : May cause cancer by inhalation. |

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

| Basic Blast Furnace Slag | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |

12.3. Bioaccumulative potential

| Basic Blast Furnace Slag | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local, state and federal regulations.
Ecology - waste materials : Avoid release to the environment.

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SECTION 14: Transport information

In accordance with DOT

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Basic Blast Furnace Slag

| | |
|-------------------------------------|---------------------------------|
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
|-------------------------------------|---------------------------------|

Quartz (14808-60-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|------------------------------------------------------------------------------------|
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
|----------------------|------------------------------------------------------------------------------------|

EU-Regulations

Quartz (14808-60-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available.

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available.

15.2.2. National regulations

Quartz (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

Quartz (14808-60-7)

| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
|-------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------|
| Yes | | | | |

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SECTION 16: Other information

Other information :

Full text of H-phrases:

| | |
|---------------------|----------------------------------|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Carc. 1A | Carcinogenicity Category 1A |
| H302 | Harmful if swallowed |
| H350 | May cause cancer |

SDS US (GHS HazCom 2012)

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