1. Identification

Product identifier  Cleveland-Cliffs, Inc. Iron Ore Pellets And Fines

Other means of identification


Recommended use  Iron ore pellets are the primary raw material used in steel making.

Recommended restrictions  Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

Manufacturer/Importer/Supplier/Distributor information

Company name  Cleveland-Cliffs, Inc.
Address  200 Public Square, Suite 3300
          Cleveland, OH 44114
Telephone  +1 216-694-5700 (8:00 am - 5:00 pm)
Emergency telephone number  +1 855-350-3591 (3E Service 24/7)

2. Hazard(s) identification

Physical hazards  Not classified.

Health hazards  Carcinogenicity Category 1A
Specific target organ toxicity, repeated exposure Category 2 (Lung)

OSHA defined hazards  Not classified.

Label elements

Signal word  Danger

Hazard statement  May cause cancer. May cause damage to organs (Lung) through prolonged or repeated exposure. Product contains respirable crystalline silica.

Precautionary statement

Prevention  Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. In case of inadequate ventilation wear respiratory protection. Wear protective gloves/protective clothing/eye protection/face protection.

Response  If exposed or concerned: Get medical advice/attention.

Storage  Store away from incompatible materials.

Disposal  Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)  None known.

Supplemental information  None.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron oxide</td>
<td>1309-37-1</td>
<td>85-95</td>
</tr>
<tr>
<td>Silica</td>
<td>7631-86-9</td>
<td>4.5-5.8</td>
</tr>
<tr>
<td>Crystalline silica as Quartz</td>
<td>14808-60-7</td>
<td>0.03-1.51</td>
</tr>
<tr>
<td>Crystalline silica as Cristobalite</td>
<td>14464-46-1</td>
<td>&lt;0.1-2.26</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>0.35-6.54</td>
</tr>
<tr>
<td>Magnesium oxide</td>
<td>1309-48-4</td>
<td>0.31-2.03</td>
</tr>
</tbody>
</table>

Composition comments: Components not listed are either non-hazardous or are below reportable limits. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation
If symptoms are experienced, remove source of contamination or move victim to fresh air. Oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.

Skin contact
Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact
Do not rub eyes. Make sure to remove any contact lenses from the eyes before rinsing. Rinse with water. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed
Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer. Dusts may irritate the respiratory tract, skin and eyes.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information
IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Use fire-extinguishing media appropriate for surrounding materials. Apply extinguishing media carefully to avoid creating airborne dust.

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Use water spray to cool unopened containers.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation where necessary. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. For good industrial practice avoid inhalation of dust and contact with skin and eyes. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Avoid the generation of dusts during clean-up. Wet down dust and debris with a water spray to minimize dust generation. Collect dust using a vacuum cleaner equipped with HEPA filter. Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Wash surfaces to remove any remaining particulate material. Collect in containers and seal securely. Containers must be labeled.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.

Avoid discharge to drains, sewers, and other water systems.

Precautions for safe handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Respirable crystalline silica containing dust may be generated during processing, handling and storage. Silica dust may be present in the air even if not visible. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment including NIOSH approved respiratory protection as conditions and exposure situation dictates. Practice good housekeeping. Wash thoroughly after handling. Observe good industrial hygiene practices.

Store in a well-ventilated place. Store in a manner which will minimize dust generation and accumulation. Store away from incompatible materials (see Section 10 of the SDS).

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional components</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz (CAS 14808-60-7)</td>
<td>PEL</td>
<td>0.05 mg/m3</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>Magnesium oxide fume (CAS 1309-48-4)</td>
<td>PEL</td>
<td>15 mg/m3</td>
<td>Total particulate.</td>
</tr>
<tr>
<td>Crystalline Silica as Cristobalite (CAS 14464-46-1)</td>
<td>PEL</td>
<td>0.05 mg/m3</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>Calcium oxide (CAS 1305-78-8)</td>
<td>PEL</td>
<td>5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Iron oxide (CAS 1309-37-1)</td>
<td>PEL</td>
<td>10 mg/m3</td>
<td>Fume.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. OSHA Table Z-3 (29 CFR 1910.1000)</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional components</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica as Cristobalite (CAS 14464-46-1)</td>
<td>TWA</td>
<td>0.05 mg/m3</td>
<td>Respirable.</td>
</tr>
<tr>
<td>Silica (CAS 7631-86-9)</td>
<td>TWA</td>
<td>1.2 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.8 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>20 mppcf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. ACGIH Threshold Limit Values</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional components</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz (CAS 14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>Magnesium oxide fume (CAS 1309-48-4)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>Crystalline Silica as Cristobalite (CAS 14464-46-1)</td>
<td>TWA</td>
<td>0.025 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>Calcium oxide (CAS 1305-78-8)</td>
<td>TWA</td>
<td>2 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Iron oxide (CAS 1309-37-1)</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>
### US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Additional components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (CAS 14808-60-7)</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>Crystalline Silica as Cristobalite (CAS 14464-46-1)</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>Silica (CAS 7631-86-9)</td>
<td>TWA</td>
<td>6 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Calcium oxide (CAS 1305-78-8)</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Iron oxide (CAS 1309-37-1)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Dust and fume.</td>
</tr>
</tbody>
</table>

#### Biological limit values
No biological exposure limits noted for the ingredient(s).

#### Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

#### Appropriate engineering controls
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide easy access to eye wash facilities in the work area.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection
Normal eye protection practices should be used. If dusty conditions exist, chemical goggles are recommended.

##### Skin protection
- **Hand protection**
  Wear suitable protective gloves to prevent contact, cuts and abrasions. Leather or cloth work gloves can be used.

##### Respiratory protection
Seek professional advice. Respiratory protection may be required to maintain exposure below applicable health limits depending on the exposure situation. Apply respiratory protection (dust masks, half-face, full-face and self-contained breathing apparatus) for pellet dust based on the respirable dust concentration, oxygen level, working conditions and user needs. Filtering facepiece dust masks of 95 to 100 rating are typically acceptable for iron ore pellet dust depending on the circumstances. Half-face elastomeric tight-fitting negative pressure air-purifying respirators with 95 to 100 filters will typically provide a tighter fit and better protection. Use only NIOSH approved respirators. Air-purifying respirators cannot be used in oxygen deficient atmospheres. Follow applicable regulatory rules and guidance (ex. OSHA Respiratory Protection 29 CFR 1910.134). Consult with a certified industrial hygienist or other qualified professional if you are uncertain of the appropriate respiratory protection required for a given operation or set of conditions.

##### Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

##### General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

### 9. Physical and chemical properties

#### Appearance

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Hard solid pellets 3/8 to 1/2-inch in diameter and associated fine particulate.</td>
</tr>
<tr>
<td>Color</td>
<td>Grey to reddish black.</td>
</tr>
<tr>
<td>Odor</td>
<td>None.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>&gt; 1832 °F (&gt; 1000 °C)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 1832 °F (&gt; 1000 °C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Solid material. Not volatile.</td>
</tr>
</tbody>
</table>
Flammability (solid, gas) Not flammable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)
Not flammable.

Flammability limit - upper (%)
Not flammable.

Explosive limit - lower (%)
Not applicable

Explosive limit - upper (%)
Not applicable

Vapor pressure Not applicable.

Vapor density Not applicable.

Relative density Not available.

Solubility(ies)

Solubility (water) Insoluble in water.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not determined.

Decomposition temperature Not determined.

Viscosity Not applicable.

Other information Hard pellets 3/8 to 1/2-inch in diameter with associated fine dust.

Bulk density 120 - 140 lb/ft³

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Storage with strong acids, strong bases or calcium hypochlorite.

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents. Iron oxide dust in contact with calcium hypochlorite evolve oxygen which may increase fire and explosion risk.

Hazardous decomposition products Toxic fumes and vapors may be released at high temperatures.

11. Toxicological information

Information on likely routes of exposure

Inhalation Dust may irritate respiratory system. Prolonged inhalation may be harmful.

Skin contact Dust or powder may irritate the skin.

Eye contact Dust may irritate the eyes.

Iron Ores, Agglomerates Result: non-irritating
Species: Rabbit

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer. Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components Species Test Results
Iron Ores, Agglomerates (CAS N/A)

Acute
Oral
LD50 Rat > 4500 mg/kg
<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium oxide (CAS 1309-48-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>3870 - 3990 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silica (CAS 7631-86-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>&gt; 5000 mg/kg, 24 Hours</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust</td>
<td>Rat</td>
<td>&gt; 0.14 mg/l, 4 Hours</td>
</tr>
<tr>
<td>LC50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>&gt; 3300 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

Prolonged skin contact may cause temporary irritation.

**Irritation Corrosion - Skin**

Iron Ores, Agglomerates

Result: Not irritating.

Species: Rabbit

**Serious eye damage/eye irritation**

Direct contact with eyes may cause temporary irritation.

**Eye Contact**

Iron Ores, Agglomerates

Result: non-irritating

Species: Rabbit

**Respiratory or skin sensitization**

**Respiratory sensitization**

This product is not expected to cause respiratory sensitization.

**Skin sensitization**

This product is not expected to cause skin sensitization.

**Skin sensitization**

Iron Ores, Agglomerates

0.1 %

Result: Not sensitising.

Species: Guinea pig

**Germ cell mutagenicity**

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

Cleveland-Cliffs, Inc. Iron Ore Pellets and Fines are not listed as carcinogenic by IARC, NTP or OSHA. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. “There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk...” (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

- Crystalline silica as Cristobalite (CAS 14464-46-1) 1 Carcinogenic to humans.
- Crystalline silica as Quartz (CAS 14808-60-7) 1 Carcinogenic to humans.
- Iron oxide (CAS 1309-37-1) 3 Not classifiable as to carcinogenicity to humans.
- Silica (CAS 7631-86-9) 3 Not classifiable as to carcinogenicity to humans.

**NTP Report on Carcinogens**

- Crystalline silica as Cristobalite (CAS 14464-46-1) Known To Be Human Carcinogen.
- Crystalline silica as Quartz (CAS 14808-60-7) Known To Be Human Carcinogen.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline silica as Cristobalite (CAS 14464-46-1) Cancer
Crystalline silica as Quartz (CAS 14808-60-7) Cancer

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron Ores, Agglomerates</td>
<td>Not classified.</td>
</tr>
</tbody>
</table>

4.7 mg/m³ NOAEC, Mild and borderline changes were considered to be associated with the exposure to poorly soluble particles rather than specific toxicity of the tested particles. The effects found at higher concentrations appear to be consistent with a particle-overload related inflammatory response.

Species: Rat

Specific target organ toxicity - repeated exposure

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron Ores, Agglomerates</td>
<td>May cause damage to organs (Lung) through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

4.7 mg/m³ NOAEC, Mild and borderline changes were considered to be associated with the exposure to poorly soluble particles rather than specific toxicity of the tested particles. The effects found at higher concentrations appear to be consistent with a particle-overload related inflammatory response.

Species: Rat

Aspiration hazard
Not an aspiration hazard.

Chronic effects
Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Chronic inhalation of high concentrations of iron oxide fumes or dust may lead to benign pneumoconiosis (siderosis). Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

12. Ecological information

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
No data available.

Mobility in soil
The product is insoluble in water.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.
15. Regulatory information

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.


- Crystalline silica as Cristobalite (CAS 14464-46-1) Cancer
- Crystalline silica as Quartz (CAS 14808-60-7) Cancer
- Crystalline silica as Cristobalite (CAS 14464-46-1) lung effects
- Crystalline silica as Quartz (CAS 14808-60-7) lung effects
- Crystalline silica as Cristobalite (CAS 14464-46-1) immune system effects
- Crystalline silica as Quartz (CAS 14808-60-7) immune system effects
- Crystalline silica as Cristobalite (CAS 14464-46-1) kidney effects
- Crystalline silica as Quartz (CAS 14808-60-7) kidney effects

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**

- **Classified hazard categories**
  - Cancer
  - Lung effects
  - Immune system effects
  - Kidney effects

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

- **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**
  
  Not regulated.

- **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**
  
  Not regulated.

- **Safe Drinking Water Act (SDWA)**
  
  Not regulated.

**US state regulations**

**US. Massachusetts RTK - Substance List**

- Calcium oxide (CAS 1305-78-8)
- Crystalline silica as Cristobalite (CAS 14464-46-1)
- Crystalline silica as Quartz (CAS 14808-60-7)
- Iron oxide (CAS 1309-37-1)
- Magnesium oxide (CAS 1309-48-4)
- Silica (CAS 7631-86-9)

**US. New Jersey Worker and Community Right-to-Know Act**

- Calcium oxide (CAS 1305-78-8)
- Crystalline silica as Cristobalite (CAS 14464-46-1)
- Crystalline silica as Quartz (CAS 14808-60-7)
- Iron oxide (CAS 1309-37-1)
- Magnesium oxide (CAS 1309-48-4)
- Silica (CAS 7631-86-9)

**US. Pennsylvania Worker and Community Right-to-Know Law**

- Calcium oxide (CAS 1305-78-8)
- Crystalline silica as Cristobalite (CAS 14464-46-1)
- Crystalline silica as Quartz (CAS 14808-60-7)
- Iron oxide (CAS 1309-37-1)
- Magnesium oxide (CAS 1309-48-4)
- Silica (CAS 7631-86-9)

**US. Rhode Island RTK**

- Calcium oxide (CAS 1305-78-8)
Crystalline silica as Cristobalite (CAS 14464-46-1)
Crystalline silica as Quartz (CAS 14808-60-7)
Iron oxide (CAS 1309-37-1)
Magnesium oxide (CAS 1309-48-4)

California Proposition 65

WARNING: This product can expose you to chemicals including Crystalline silica as Quartz, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance
Crystalline silica as Quartz (CAS 14808-60-7) Listed: October 1, 1988
US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))
Crystalline silica as Cristobalite (CAS 14464-46-1)
Crystalline silica as Quartz (CAS 14808-60-7)
Magnesium oxide (CAS 1309-48-4)

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date          12-June-2018
Revision date        -
Version #            01
HMIS® ratings        Health: 1*
                      Flammability: 0
                      Physical hazard: 0

NFPA ratings

Disclaimer
Cleveland-Cliffs, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.