1. Identification

Product identifier: OREAS 70B

Other means of identification

Product code: Q0203078

Recommended use: Used as a check standard for soil and geochemical calibrations.

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Company name: Evident Scientific

Address: 48 Woerd Avenue

Waltham, MA 02453 USA

Telephone number: +1-781-419-3900

Emergency telephone number: CHEMTREC


2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sensitization, skin</td>
</tr>
<tr>
<td>2</td>
<td>Germ cell mutagenicity</td>
</tr>
<tr>
<td>1A</td>
<td>Carcinogenicity</td>
</tr>
<tr>
<td>1</td>
<td>Specific target organ toxicity, repeated exposure</td>
</tr>
</tbody>
</table>

Environmental hazards

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Hazardous to the aquatic environment, acute hazard</td>
</tr>
<tr>
<td>3</td>
<td>Hazardous to the aquatic environment, long-term hazard</td>
</tr>
</tbody>
</table>

OSHA defined hazards: Not classified.

Label elements

Signal word: Danger

Hazard statement: May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin: Wash with plenty of water. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage

Store locked up.

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>High grade massive nickel sulfide ore and barren ultramafic material</td>
<td>-</td>
<td>100</td>
</tr>
</tbody>
</table>

Constituents

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>-</td>
</tr>
<tr>
<td>Nickel sulfide</td>
<td>16812-54-7</td>
<td>-</td>
</tr>
</tbody>
</table>

Composition comments

The hazard evaluation is based on the content of nickel sulfide.

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact

Do not rub eyes. 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

Dusts may irritate the respiratory tract, skin and eyes. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

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. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

None known.

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

The product is non-combustible.

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. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent product from entering drains. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel sulfide (CAS 16812-54-7)</td>
<td>PEL</td>
<td>1 mg/m³</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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constituents</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>0.1 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel sulfide (CAS 16812-54-7)</td>
<td>TWA</td>
<td>0.2 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>Quartz (CAS 14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel sulfide (CAS 16812-54-7)</td>
<td>TWA</td>
<td>0.015 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Quartz (CAS 14808-60-7)</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation 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 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.

Individual protection measures, such as personal protective equipment

Eye/face protection

Use tight fitting goggles if dust is generated.

Skin protection

Wear appropriate chemical resistant gloves.
### Skin protection
- Other
  - Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

### Respiratory protection
- Wear respirator with dust filter. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

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

### General hygiene considerations
- Observe any medical surveillance requirements. 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. Contaminated work clothing should not be allowed out of the workplace.

### 9. Physical and chemical properties

#### Appearance
- **Physical state**: Solid.
- **Form**: Powder.
- **Color**: Not available.
- **Odor**: Not available.
- **Odor threshold**: Not available.
- **pH**: Not available.
- **Melting point/freezing point**: Not available.
- **Initial boiling point and boiling range**: Not available.
- **Flash point**: Not applicable.
- **Evaporation rate**: Not applicable.
- **Flammability (solid, gas)**: This material will not burn.

#### Upper/lower flammability or explosive limits
- **Flammability limit - lower (%)**: Not available.
- **Flammability limit - upper (%)**: Not available.
- **Explosive limit - lower (%)**: Not available.
- **Explosive limit - upper (%)**: Not available.

#### 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 applicable.

#### Decomposition temperature
- Not available.

#### Viscosity
- Not available.

#### Other information
- **Explosive properties**: Not explosive.
- **Oxidizing properties**: Not oxidizing.

### 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
- Contact with incompatible materials.

#### Incompatible materials
- Powerful oxidizers. Chlorine.
Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

**Inhalation**
Dust may irritate respiratory system. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material.

**Skin contact**
Dust or powder may irritate the skin. May cause an allergic skin reaction.

**Eye contact**
Dust may irritate the eyes.

**Ingestion**
Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics
Dusts may irritate the respiratory tract, skin and eyes. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

**Acute toxicity**
Not expected to be acutely toxic.

**Skin corrosion/irritation**
Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation**
Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

**Respiratory sensitization**
Not a respiratory sensitizer.

**Skin sensitization**
May cause an allergic skin reaction.

**Germ cell mutagenicity**
Suspected of causing genetic defects.

**Carcinogenicity**
May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity
Nickel sulfide (CAS 16812-54-7) 1 Carcinogenic to humans.
Quartz (CAS 14808-60-7) 1 Carcinogenic to humans.

NTP Report on Carcinogens
Nickel sulfide (CAS 16812-54-7) Known To Be Human Carcinogen.
Quartz (CAS 14808-60-7) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
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**
Not classified.

**Specific target organ toxicity - repeated exposure**
Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**
Not an aspiration hazard.

**Chronic effects**
Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

**Ecotoxicity**
Harmful to aquatic life with long lasting effects.

**Persistence and degradability**
No data is available on the degradability of any ingredients in the mixture.

**Bioaccumulative potential**
No data available.

**Mobility in soil**
No data available.

**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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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.
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
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

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)
Nickel sulfide (CAS 16812-54-7) Listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Quartz (CAS 14808-60-7) Cancer
lung effects
immune system effects
kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Yes

Classified hazard categories
Respiratory or skin sensitization
Germ cell mutagenicity
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting) Chemical name
CAS number
% by wt.
Nickel sulfide 16812-54-7 -

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Nickel sulfide (CAS 16812-54-7)
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
Quartz (CAS 14808-60-7)

US. New Jersey Worker and Community Right-to-Know Act
Nickel sulfide (CAS 16812-54-7)
Quartz (CAS 14808-60-7)
US. Pennsylvania Worker and Community Right-to-Know Law
Nickel sulfide (CAS 16812-54-7)
Quartz (CAS 14808-60-7)

US. Rhode Island RTK
Nickel sulfide (CAS 16812-54-7)
Quartz (CAS 14808-60-7)

California Proposition 65

WARNING: This product can expose you to chemicals including Quartz (SiO2), 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
Nickel sulfide (CAS 16812-54-7) Listed: May 7, 2004
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))
Nickel sulfide (CAS 16812-54-7)
Quartz (CAS 14808-60-7)

16. Other information, including date of preparation or last revision
Issue date 12-March-2019
Revision date 22-November-2022
Version # 02

Further information
HMIS® is a registered trade and service mark of the American Coatings Association (ACA).
E - Safety Glasses, Gloves, Dust Respirator

HMIS® ratings
Health: 3*
Flammability: 0
Physical hazard: 0
Personal protection: E

Disclaimer
Evident Scientific 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.