



SAFETY DATA SHEET

1. Identification of the product

GHS product identifier OREAS 70B

Other means of identification

Product code Q0203078

Recommended use of the chemical and restrictions on use

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

Recommended restrictions None known.

Suppliers details

Company name Olympus

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48 Woerd Avenue
Waltham, MA 02453
USA

Telephone number +1-781-419-3900

Emergency telephone number CHEMTREC

US: +1-800-424-9300, International: +1-703-527-3887

2. Hazard identification

Classification of the substance or mixture

Physical hazards Not classified.

Health hazards

Sensitization, skin	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A
Specific target organ toxicity, repeated exposure	Category 1

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 3
Hazardous to the aquatic environment, long-term hazard	Category 3

GHS label elements, including precautionary statements



Signal word Danger

Hazard statement

H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of water.
 P308 + P313 IF exposed or concerned: Get medical advice/attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients**Mixtures**

Chemical identity	Common name(s), synonym(s)	CAS number and other unique identifiers	Concentration
High grade massive nickel sulfide ore and barren ultramafic material		-	100

Constituents

Chemical identity	Common name(s), synonym(s)	CAS number and other unique identifiers	Concentration
Quartz		14808-60-7	-
Nickel sulfide		16812-54-7	-

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

4. First-aid measures**Description of necessary 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 actions 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

For non-emergency personnel 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. 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.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

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.

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.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions to ensure 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

Control parameters

Occupational exposure limits

Dominican Republic. OELs (Regulation of Safety and Health in the Workplace - Decree No. 522-06 and Resolution No. 04-2007 of January 30, 2007) updated with ACGIH

Constituents	Type	Value	Form
Nickel sulfide (CAS 16812-54-7)	TWA	0.2 mg/m ³	Inhalable fraction.
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

US. ACGIH Threshold Limit Values

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

Control banding approach Not available.

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	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	Wear respirator with dust filter.
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 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.

ACGIH Carcinogens

Nickel sulfide (CAS 16812-54-7)	A1 Confirmed human carcinogen.
Quartz (CAS 14808-60-7)	A2 Suspected human carcinogen.

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.

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.

Other information Not available.

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 methods

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.

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	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

ANTT

Not regulated as dangerous goods.

DOT

Not regulated as dangerous goods.

SCT

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

International regulations

Montreal Protocol

Not applicable.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

16. Other information

Revision date

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List of abbreviations

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

ANTT: National Agency of Land Transport.

DOT: Department of Transportation (49 CFR 172.101).

SCT: Secretariat of Communications and Transportation (NOM-002-SCT/2011).

IATA: International Air Transport Association.

IMDG Code: International Maritime Dangerous Goods Code.

IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

MARPOL: International Convention for the Prevention of Pollution from Ships.

References

Workplace Threshold Quantities of Hazardous Chemicals

NOM-047-SSA1-2011 – Workplace Biological Exposure Indices (BEIs) to Chemical Substances

NOM-028-STPS-2012 – Work-Safety Management System for Processes and Critical Equipment Handling Hazardous Chemical Substances

NOM-018-STPS-2000 – Workplace Hazardous Chemical Substances Communication and Identification Standard

NOM-010-STPS-2014 (second revision) – Occupational Exposure Limits – becomes effective on April 28, 2016

Disclaimer

Olympus 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.