

**Iron Ore fines**  
**Material Safety Data Sheet (SDS)**  
**Locations:** Krivyi Rih, Ukraine  
**Revision:** 25/04/2020

Original: 27/04/2020



**Section 1 – Identification**

**1(a) Product Identifier used on Label:** Iron Ore Fines Fe 56%  
**1(b) Other Means of Identification:** None  
**1(c) Recommended use of the chemical and restrictions on use:** Iron making,  
None  
**1(d) Name:** SUKHA BALKA, UKRAINE

**Section 2 – Hazard(s) Identification**

**2(a) Classification of the Chemical:** Iron Ore fines is considered a hazardous material according to the criteria specified in REACH [REGULATION (EC) No 1907/2006] and CLP [REGULATION (EC) No 1272/2008] and OSHA 29 CFR 1910.1200 Hazard Communication Standard. The categories of Health Hazards as defined in “GLOBALY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition ST/SG/AC.10/30/Rev. 3” United Nations, New York and Geneva, 2009 have been evaluated. Refer to Section 3, 8 and 11 for additional information.

**2(b) Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s):**

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)	Precautionary Statement(s)
	Carcinogenicity - 1A STOT Repeated Exposure - 2	<b>Danger</b>	May cause cancer. May cause damage to lungs through prolonged or repeated exposure.	Do not breathe dusts or fume. Wear protective gloves / protective clothing / eye protection / face protection.
	Acute Toxicity-Oral - 4 Skin Irritation - 2 Eye Irritation - 2B Single Target Organ Toxicity (STOT) Single Exposure - 3		Causes skin irritation. Causes eye irritation. May cause respiratory irritation. Harmful if swallowed.	Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. If exposed, concerned or feel unwell: Get medical advice/attention, call a poison center or doctor/physician. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Take off contaminated clothing and wash it before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Store locked up. Dispose of contents in accordance with federal, state and local regulations.

**2(c) Hazards not Otherwise Classified:** None Known

**2(d) Unknown Acute Toxicity Statement (Mixture):** <20%

# Iron Ore Fines

## Section 3 – Composition/Information on Ingredients

### 3(a-c) Chemical Name, Common Name (Synonyms), CAS Number and Other Identifiers, and Concentration:

Chemical Name	CAS Number	EC Number	% weight
Iron Oxides	1309-37-1	215-168-2	>80
Crystalline Silica (as Quartz)	14808-60-7	238-878-4	<1.0
Metallic Silicates	Varies	Varies	Varies

EC- European Community

CAS- Chemical Abstract Service

## Section 4 – First-aid Measures

**4(a) Description of Necessary Measures:** If exposed, concerned or feel unwell: Get medical advice/attention, call a poison center or doctor/physician.

- **Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing.
- **Eye Contact:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice attention.
- **Skin Contact:** If on skin: Take off contaminated clothing and wash it before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.
- **Ingestion:** If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth.

### 4(b) Most Important Symptoms/Effects, Acute and Delayed (Chronic):

#### Acute effects:

- **Inhalation:** Excessive exposure to high concentrations of dust may cause irritation to the eyes, skin and mucous membranes of the upper respiratory tract.
- **Eye:** Particles of iron compounds may become imbedded in the eye. Excessive exposure to high concentrations of dust may cause irritation to the eyes.
- **Skin:** Skin contact with dusts may cause irritation, possibly leading to dermatitis. Skin contact with metallic dusts may cause physical abrasion.
- **Ingestion:** Ingestion of dust may cause nausea and/or vomiting.

#### Chronic Effects:

Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure. Persons with pre-existing skin disorders may be more susceptible to dermatitis.

**4(c) Immediate Medical Attention and Special Treatment:** Treat symptomatically.

## Section 5 – Fire-fighting Measures

**5(a) Suitable (and Unsuitable) Extinguishing Media:** Use extinguishers appropriate for surrounding materials.

**5(b) Specific Hazards Arising from the Chemical:** When burned, toxic smoke and vapor may be emitted.

**5(c) Special Protective Equipment and Precautions for Fire-fighters:** Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

## Section 6 - Accidental Release Measures

**6(a) Personal Precautions, Protective Equipment and Emergency Procedures:** Use only outdoors or in a well-ventilated area. For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust. Personnel should be protected against contact with eyes and skin. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations.

**6(b) Methods and Materials for Containment and Clean Up:** Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

## Section 7 - Handling and Storage

**7(a) Precautions for Safe Handling:** Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Do not breathe dusts or fume. Wear protective gloves / protective clothing / eye protection / face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid direct contact on skin, eyes or on clothing. Emergency safety showers and eye wash stations should be present.

**7(b) Conditions for Safe Storage, including any Incompatibilities:** Whenever feasible, store locked up.

## Iron Ore Fines

### Section 8 - Exposure Controls / Personal Protection

**8(a) Occupational Exposure Limits (OELs):** The following exposure limits are offered as reference, for an experienced industrial hygienist to review.

Ingredients	OSHA PEL <sup>1</sup>	ACGIH TLV <sup>2</sup>	NIOSH REL <sup>3</sup>	IDLH <sup>4</sup>
Iron Oxides	10 mg/m <sup>3</sup> (as iron oxide fume)	5.0 mg/m <sup>3</sup>	5.0 mg/m <sup>3</sup> (as iron oxide dust and fume)	2,500 mg/m <sup>3</sup>
Crystalline Silica (as Quartz)	(30 mg/m <sup>3</sup> )/(%SiO <sub>2</sub> +2) (as total dust) (10 mg/m <sup>3</sup> )/(%SiO <sub>2</sub> +2) (as respirable fraction)	0.025 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>
Metallic Silicates	15 mg/m <sup>3</sup> (as total dust, PNOR <sup>5</sup> ) 5.0 mg/m <sup>3</sup> (as respirable fraction, PNOR)	10 mg/m <sup>3</sup> (as inhalable fraction <sup>6</sup> , PNOS <sup>7</sup> ) 3.0 mg/m <sup>3</sup> (as respirable fraction <sup>8</sup> , PNOS)	NE	NE

NE - None Established

- OSHA PELs (Permissible Exposure Limits) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
- Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. A Short Term Exposure Limit (STEL) is defined as the maximum concentration to which workers can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures.
- The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL) - Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
- The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994.
- PNOR (Particulates Not Otherwise Regulated). All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by a limit which is the same as the inert or nuisance dust limit of 15 mg/m<sup>3</sup> for total dust and 5 mg/m<sup>3</sup> for the respirable fraction.
- Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2017 TLVs<sup>®</sup> and BEIs<sup>®</sup> (Biological Exposure Indices) Appendix D, paragraph A.
- PNOS (Particulates Not Otherwise Specified). Particulates identified under the PNOS heading are "nuisance dusts" containing no asbestos and <1% crystalline silica.
- Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in ACGIH 2017 TLVs<sup>®</sup> and BEIs<sup>®</sup> Appendix D, paragraph C.

**8(b) Appropriate Engineering Controls:** Local exhaust ventilation should be used to control the emission of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations. Emergency eye wash stations and deluge safety showers should be available in the work area.

**8(c) Individual Protection Measures:**

- Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

**Warning!** Air-purifying respirators both negative-pressure, and powered-air do not protect workers in oxygen-deficient atmospheres.

- Eyes:** Wear appropriate eye protection to prevent eye contact. Use safety glasses with side shields or chemical goggles.
- Skin:** Persons handling this product should wear appropriate clothing to prevent skin contact. Wear protective gloves.
- Other protective equipment:** An eyewash fountain and deluge shower should be readily available in the work area.

### Section 9 - Physical and Chemical Properties

**9(a) Appearance (physical state, color, etc.):** Black powder

**9(b) Odor:** NA

**9(c) Odor Threshold:** NA

**9(d) pH:** NA

**9(e) Melting Point/Freezing Point:** NA

**9(f) Initial Boiling Point and Boiling Range:** NA

**9(g) Flash Point:** NA

**9(h) Evaporation Rate:** NA

**9(i) Flammability (solid, gas):** Not flammable

**9(j) Upper/Lower Flammability or Explosive Limits:** NA

**9(k) Vapor Pressure:** NA

**9(l) Vapor Density (Air = 1):** NA

**9(m) Relative Density:** NA

**9(n) Solubility(ies):** NA

**9(o) Partition Coefficient n-octanol/water:** NA

**9(p) Auto-ignition Temperature:** ND

**9(q) Decomposition Temperature:** ND

**9(r) Viscosity:** ND

NA - Not Applicable

ND - Not Determined for product as a whole






## Iron Ore Fines

### Section 10 - Stability and Reactivity

- 10(a) Reactivity:** Not Determined (ND)
- 10(b) Chemical Stability:** Iron Ore Fines are stable under normal storage and handling conditions.
- 10(c) Possibility of Hazardous Reaction:** None Known
- 10(d) Conditions to Avoid:** Storage with strong acids or calcium hypochlorite.
- 10(e) Incompatible Materials:** Iron oxide dusts in contact with calcium hypochlorite evolve oxygen and may cause an explosion.
- 10(f) Hazardous Decomposition Products:** Toxic fumes and vapors may be released at elevated temperatures.

### Section 11 - Toxicological Information

**11(a-e) Information on Toxicological Effects:** The following toxicity data has been determined for **Iron Ore Concentrates and Filter Cakes** by using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of OSHA and the EU CPL:

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	EU	OSHA			
<b>Acute Toxicity Hazard</b> (covers Categories 1-4)	4	4 <sup>a</sup>		<b>Warning</b>	Harmful if swallowed.
<b>Skin Irritation</b> (covers Categories 1A, 1B, and 2)	2	2 <sup>b</sup>		<b>Warning</b>	Causes skin irritation.
<b>Eye Damage/Irritation</b> (covers Categories 1, 2A and 2B)	2	2B <sup>c</sup>	NA	<b>Warning</b>	Causes eye irritation.
<b>Germ Cell Mutagenicity</b> (covers Categories 1A, 1B and 2)	2	NR*	NA	NA	NA
<b>Carcinogenicity</b> (covers Categories 1A, 1B and 2)	NR	1A <sup>e</sup>		<b>Danger</b>	May cause cancer.
<b>Specific Target Organ Toxicity (STOT) Following Single Exposure</b> (covers Categories 1-3)	3	3 <sup>i</sup>		<b>Warning</b>	May cause respiratory irritation.
<b>STOT Following Repeated Exposure</b> (covers Categories 1 and 2)	2	2 <sup>j</sup>		<b>Danger</b>	May cause damage to lungs through prolonged or repeated exposure.

\* NR Not Rated - Available data does not meet criteria for classification.

The Toxicological data listed below are presented regardless to classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

- a. No LC<sub>50</sub> or LD<sub>50</sub> has been established for **Iron Ore fines**. The following data has been determined for the components:
  - **Silica:** Rat LD<sub>50</sub> = 500 mg/kg (IUCLID)
  - **Iron Oxide:** LD<sub>50</sub> = >10,000 mg/kg (Oral/ Rat)
- b. No Skin (Dermal) Irritation data available for **Iron Ore Fines** as a mixture. The following Skin (Dermal) Irritation data has been determined for the components:
  - **Iron Oxide:** Moderately irritating.
- c. No Eye Irritation data available for **Iron Ore Fines** as a mixture. The following Eye Irritation information was found for the components:
  - **Iron Oxide:** Severely irritating; may cause burns.
  - **Silicon Dioxide:** Crystalline silica may cause abrasion of the cornea.
  - **Magnesium Silicate:** Expected to be a minimal eye irritant.
- d. No Skin (Dermal)/Respiratory Sensitization data available for **Iron Ore Fines** as a mixture or its individual components.
- e. No Aspiration Hazard data available for **Iron Ore Fines** as a mixture or its individual components.
- f. No Germ Cell Mutagenicity data available for **Iron Ore Fines** as a mixture. The following Germ Cell Mutagenicity information was found for the components:
  - **Iron Oxide:** Both positive and negative data.
- g. Carcinogenicity: IARC, NTP, and OSHA do not list **Iron Ore Fines** as carcinogens. The following Carcinogenicity information was found for the components:
  - **Iron Oxide:** IARC-3, TLV-A4.
  - **Silicon Dioxide:** Repeated exposure to crystalline silica causes lung cancer in exposed humans. IARC-1, NTP-1, TLV-A2, and OSHA.
  - **Magnesium Silicates:** Lifetime inhalation exposure of rats and mice to atmospheres of magnesium silicate resulted in tumors of the lung in female rats at  $\geq 6 \text{ mg/m}^3$

## Iron Ore Fines

### Section 11 - Toxicological Information (continued)

#### 11(a-e) Information on Toxicological Effects (continued):

- h. No Toxic Reproduction data available for **Iron Ore Fines** as a mixture or its individual components.
- i. No Specific Target Organ Toxicity (STOT) following a Single Exposure data available for **Iron Ore Fines** as a mixture. The following STOT following a Single Exposure data was found for the components:
- **Iron Oxide:** May cause lung irritation.
  - **Silicon Dioxide:** Single exposure to very high airborne levels may cause lung irritation in exposed humans.
- j. No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **Iron Ore Fines** as a whole. The following STOT following Repeated Exposure data was found for the components:
- **Iron Oxide:** Some pulmonary and lung effects reported.
  - **Silicon Dioxide:** Repeated exposure to crystalline silica causes silicosis and kidney damage as well as increased incidence of autoimmune disorders in humans.

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BEIs) with Other Worldwide Occupational Exposure Values 2017, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS).

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s):

#### Acute Effects by Component:

- **IRON OXIDE:** Contact with iron oxide has been reported to cause skin irritation and serious eye damage.
- **SILICA (Crystalline Quartz):** Causes irritation and inflammation of the respiratory tract. May cause abrasion of the cornea. Inhalation may cause cough. A single exposure to very high airborne levels may cause lung irritation in exposed humans.
- **METALLIC SILICATES:** Magnesium Silicate may irritate the eyes.

#### Delayed (chronic) Effects by Component:

- **IRON OXIDE:** Chronic inhalation of excessive concentrations of iron oxide dusts may result in the development of a benign lung disease, called siderosis, which is observable as an X-ray change. No physical impairment of lung function has been associated with siderosis. Inhalation of excessive concentrations of ferric oxide may enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens. Iron oxide is listed as a Group 3 (not classifiable) carcinogen by the International Agency for Research on Cancer (IARC).
- **SILICA (Crystalline Quartz):** Inhalation of quartz is classified by IARC as a probable human carcinogen. Chronic exposure can cause silicosis, a form of lung scarring that can cause shortness of breath, reduced lung function, and in severe cases, death. Repeated exposure may cause kidney damage as well as increased incidence of autoimmune disorder.
- **METALLIC SILICATES:** Magnesium Silicate is suspected of causing cancer by inhalation. Lifetime inhalation exposure of rats and mice to atmospheres of magnesium silicate resulted in interstitial fibrosis of the lung and reduced pulmonary function in rats at  $\approx$ , > 6 mg/m<sup>3</sup>. Calcium Silicate exposure to wollastonite miners suggests that occupational exposure can cause impaired respiratory function and pneumoconiosis.

### Section 12 - Ecological Information

**12(a) Ecotoxicity (aquatic & terrestrial):** No data available for the product, **Iron Ore Fines** as a whole. However, individual components of the product have been found to be toxic to the environment. Dusts may migrate into soil and groundwater and be ingested by wildlife as follows:

- **Iron Oxide:** LC<sub>50</sub>: >1000 mg/L; Fish

**12(b) Persistence & Degradability:** No Data Available

**12(c) Bioaccumulative Potential:** No Data Available

**12(d) Mobility (in soil):** No Data Available

**12(e) Other Adverse Effects:** None Known

#### Additional Information:

**Hazard Category:** No Category

**Signal Word:** No Signal Word

**Hazard Symbol:** No Hazard Symbol

**Hazard Statement:** No Hazard Statement

### Section 13 - Disposal Considerations

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

**Container Cleaning and Disposal:** Follow applicable federal, state and local regulations. Observe safe handling precautions. European Waste Catalogue 10-02-99 (wastes not otherwise specified).

**Please note this information is for Iron Ore Fines in its original form. Any alterations can void this information.**

## Iron Ore Fines

### Section 14 - Transport Information

**14 (a-g) Transportation Information:**

**US Department of Transportation (DOT)** under 49 CFR 172.101 does not regulate **Iron Ore Fines** as a hazardous material. All federal, state, and local laws and regulations that apply to the transport of this type of material must be adhered to.

<b>Shipping Name: Iron Ore Fines</b> <b>Shipping Symbols:</b> NA <b>Hazard Class:</b> NA <b>UN No.:</b> NA <b>Packing Group:</b> NA <b>DOT/IMO Label:</b> NA <b>Special Provisions (172.102):</b> NA	<b>Packaging Authorizations</b> <b>a) Exceptions:</b> NA <b>b) Non-bulk:</b> NA <b>c) Bulk:</b> NA	<b>Quantity Limitations</b> <b>a) Passenger Aircraft or Rail:</b> NA <b>b) Cargo Aircraft Only:</b> NA  <b>Vessel Stowage Location:</b> NA  <b>DOT reportable quantities:</b> NA
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**International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID)** classification, packaging and shipping requirements follow the US DOT Hazardous Materials Regulation.

**Regulations Concerning the International Carriage of Dangerous Goods by Road (ADR)** does not regulate **Iron Ore Fines** as a hazardous material.

<b>Shipping Name: Iron Ore Fines Classification Code:</b> NA <b>UN No.:</b> NA <b>Packing Group:</b> NA <b>ADR Label:</b> NA <b>Special Provisions:</b> NA <b>Limited Quantities:</b> NA	<b>Packaging</b> <b>a) Packing Instructions:</b> NA <b>b) Special Packing Provisions:</b> NA <b>c) Mixed Packing Provisions:</b> NA	<b>Portable Tanks &amp; Bulk Containers</b> <b>a) Instructions:</b> NA <b>b) Special Provisions:</b> NA
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**International Air Transport Association (IATA)** does not regulate **Iron Ore Fines** as a hazardous material.

<b>Shipping Name: Iron Ore Concentrates and Filter Cakes</b> <b>Class/Division:</b> NA <b>Hazard Label (s):</b> NA <b>UN No.:</b> NA <b>Packing Group:</b> NA <b>Excepted Quantities (EQ):</b> NA	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">Passenger &amp; Cargo Aircraft</th> </tr> <tr> <td style="width: 50%;"><b>Limited Quantity (EQ)</b></td> <td style="width: 50%;"></td> </tr> <tr> <td><b>Pkg Inst:</b> NA</td> <td><b>Pkg Inst:</b> NA</td> </tr> <tr> <td><b>Max Net Qty/Pkg:</b> NA</td> <td><b>Max Net Qty/Pkg:</b> NA</td> </tr> </table>	Passenger & Cargo Aircraft		<b>Limited Quantity (EQ)</b>		<b>Pkg Inst:</b> NA	<b>Pkg Inst:</b> NA	<b>Max Net Qty/Pkg:</b> NA	<b>Max Net Qty/Pkg:</b> NA	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Cargo Aircraft Only</th> <th style="text-align: center;">Special Provisions:</th> </tr> <tr> <td><b>Pkg Inst:</b> NA</td> <td>NA</td> </tr> <tr> <td><b>Max Net Qty/Pkg:</b> NA</td> <td><b>ERG Code:</b> NA</td> </tr> </table>	Cargo Aircraft Only	Special Provisions:	<b>Pkg Inst:</b> NA	NA	<b>Max Net Qty/Pkg:</b> NA	<b>ERG Code:</b> NA
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<b>Max Net Qty/Pkg:</b> NA	<b>ERG Code:</b> NA															

Pkg Inst – Packing Instructions

Max Net Qty/Pkg – Maximum Net Quantity per Package

ERG – Emergency Response Drill Code

**Iron Ore Fines** does not have a **Transport Dangerous Goods (TDG)** classification.

### Section 15 - Regulatory Information

**Regulatory Information:** *The following listing of regulations relating to a Sukha Balka product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.* This product and/or its constituents are subject to the following regulations:

**SARA Potential Hazard Categories:** Immediate Acute Health Hazard, Delayed Chronic Health Hazard.

**SARA 313 Supplier Notification:** The product, **Iron Ore Fines** does not contain any of the toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Ingredients	WHMIS Classification
Quartz	Specific target organ toxicity - repeated exposure - Category 1; Carcinogenicity - Category 1A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

### Section 16 - Other Information

**Prepared By:** SUKHA BALKA

# Iron Ore Fines

## Section 16 - Other Information (continued)

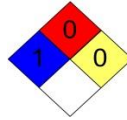
**Additional Information:**

**Hazardous Material Identification System (HMIS) Classification**

<b>Health Hazard</b>	<b>1</b>
<b>Fire Hazard</b>	<b>0</b>
<b>Physical Hazard</b>	<b>0</b>

HEALTH= **1**, \* Denotes possible chronic hazard if airborne dusts or fumes are generated. Irritation or minor reversible injury possible.  
 FIRE= **0**, Materials that will not burn.  
 PHYSICAL HAZARDS = **0**, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

**National Fire Protection Association (NFPA)**



HEALTH = **1**, Exposure could cause irritation but only minor residual injury even if no treatment is given.  
 FIRE = **0**, Materials that will not burn.  
 INSTABILITY = **0**, Normally stable, even under fire exposure conditions, and are not reactive with water.

**ABBREVIATIONS/ACRONYMS:**

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists	<b>NIF</b>	No Information Found
<b>BEIs</b>	Biological Exposure Indices	<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>CAS</b>	Chemical Abstracts Service	<b>NTP</b>	National Toxicology Program
<b>CEMCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act	<b>ORC</b>	Organization Resources Counselors
<b>CFR</b>	Code of Federal Regulations	<b>OSHA</b>	Occupational Safety and Health Administration
<b>CNS</b>	Central Nervous System	<b>PEL</b>	Permissible Exposure Limit
<b>GI, GIT</b>	Gastro-Intestinal, Gastro-Intestinal Tract	<b>PNOR</b>	Particulate Not Otherwise Regulated
<b>HMIS</b>	Hazardous Materials Identification System	<b>PNOC</b>	Particulate Not Otherwise Classified
<b>IARC</b>	International Agency for Research on Cancer	<b>PPE</b>	Personal Protective Equipment
<b>LC50</b>	Median Lethal Concentration	<b>ppm</b>	parts per million
<b>LD50</b>	Median Lethal Dose	<b>RCRA</b>	Resource Conservation and Recovery Act
<b>LD<sub>L6</sub></b>	Lowest Dose to have killed animals or humans	<b>RTECS</b>	Registry of Toxic Effects of Chemical Substances
<b>LEL</b>	Lower Explosive Limit	<b>SARA</b>	Superfund Amendment and Reauthorization Act
<b>µg/m<sup>3</sup></b>	microgram per cubic meter of air	<b>SCBA</b>	Self-contained Breathing Apparatus
<b>mg/m<sup>3</sup></b>	milligram per cubic meter of air	<b>STEL</b>	Short-term Exposure Limit
<b>mppcf</b>	million particles per cubic foot	<b>TLV</b>	Threshold Limit Value
<b>SDS</b>	Safety Data Sheet	<b>TWA</b>	Time-weighted Average
<b>MSHA</b>	Mine Safety and Health Administration	<b>UEL</b>	Upper Explosive Limit
<b>NFPA</b>	National Fire Protection Association		