

1. PRODUCT AND COMPANY IDENTIFICATION

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|---|---|
| Product Name | Silicon Dioxide, Enriched in Silicon |
| Chemical Formula | SiO ₂ |
| Molecular Weight | 60.08 |
| CAS No. | 7631-86-9 |
| EINECS/ELINCS | 231-545-4 |
| RTECS No. | VV7565000 |
| Supplier Address* | ISOFLEX USA PO Box 29475 San Francisco CA 94129 United States |
| Telephone | +1 415-440-4433 |
| Fax | +1 415-563-4433 |
| Emergency Phone Number (both supplier and manufacturer) | Infotrac/ +1 800-535-5053 *May include subsidiaries or affiliate companies/divisions |
| Email | iusa@isoflex.com |
| Website | www.isoflex.com |
| Preparation Information | ISOFLEX USA Product Safety +1 415-440-4433 |

2. HAZARDOUS IDENTIFICATION

Emergency Overview:

Target Organs: May affect the respiratory system.

NFPA Ratings: (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health Hazard = 2 Flammability = 0 Reactivity = 0



HMIS Ratings: (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health Hazard = 2 Flammability = 0 Physical Hazard = 0

| | |
|------------------------|----------|
| HEALTH HAZARD | 2 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARD | 0 |

Potential Health Effects

Inhalation

Skin Contact

Eye Contact

May cause pneumoconiosis, pulmonary fibrosis and silicosis.

May cause abrasive irritation.

May cause abrasive irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| | |
|-------------------|------------------|
| Chemical Name: | Silicon Dioxide |
| CAS No: | 7631-86-9 |
| Chemical Formula: | SiO ₂ |
| Molecular Weight: | 60.08 |

4. FIRST AID MEASURES

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|----------------------------|--|
| <i>Inhalation Exposure</i> | Remove victim to fresh air |
| <i>Oral Exposure</i> | Not applicable |
| <i>Dermal Exposure</i> | Wash affected area with mild soap and water |
| <i>Eye Exposure</i> | Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention symptoms persist. |

5. FIREFIGHTING MEASURES

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|-------------------------------------|---|
| <i>Flash Point</i> | NE or NA |
| <i>Method Used</i> | No data |
| <i>Explosive Limits</i> | |
| LEL | NA |
| UEL | NA |
| <i>Suitable Extinguishing Media</i> | Not applicable. Use suitable extinguishing media for any type of fire involving surrounding materials. |
| Firefighting | |
| <i>Protective Equipment</i> | Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. |
| <i>Special Hazards</i> | Fumes from fire are hazardous. |
| <i>Other Advice</i> | Isolate runoff to prevent environmental pollution. |

6. ACCIDENTAL RELEASE MEASURES

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| <i>Personal Precautions</i> | Wear appropriate respiratory and protective equipment specified in section 8. Isolate spill area and provide ventilation. Avoid dust formation. Avoid breathing vapors, mist or gas. |
| <i>Environmental Precautions</i> | Do not let product enter drains. |
| <i>Methods for Cleaning Up</i> | Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust. |

7. HANDLING AND STORAGE

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|-----------------|---|
| <i>Handling</i> | Wash thoroughly after handling. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| <i>Storage</i> | Store in cool, dry well-ventilated area. Store in tightly sealed container. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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| <i>Engineering Measures</i> | Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. |
| <i>Ventilation</i> | Local exhaust ventilation may be necessary to control any air contaminants to within their PELs or TLVs during the use of this product. Good general ventilation is recommended. |
| Protective Equipment Summary - Hazard Label Information: NIOSH-approved respirator; Impervious gloves; Safety glasses; Clothes to prevent skin contact | |

Personal Protective Equipment

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|---------------------------------|--|
| <i>Respiratory Equipment</i> | NIOSH-approved respirator |
| <i>Eye Protection</i> | Safety glasses |
| <i>Hand Protection</i> | Rubber gloves |
| <i>Body Protection</i> | Protective gear suitable to prevent contamination |
| <i>General Hygiene Measures</i> | Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

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|----------------|---------------------|
| Physical State | Solid |
| Form | Powder |
| Color | Transparent to gray |
| Odor | No odor |

Safety Data

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| PH: | No data |
| Specific Gravity (Water = 1): | 2.2 g/cm |
| Boiling Point: | 2230.00 °C |
| Melting Point: | 1716.00 °C to 1736.00 °C |
| Density: | No data |
| Vapor Pressure (vs Air or MM HG): | 10 mm at 1732.0 °C |
| Vapor Density (vs Air = 1): | No data |
| Evaporation Rate (vs Butyl Acentate=1): | No data |
| Solubility in Water: | Insoluble |
| Other Solubility Notes: | Soluble in hydrofluoric acid |
| Percentage Volatile: | NE or NA |
| OSHA PEL: | 80mg/m ³ / %SiO ₂ |
| ACGIH TLV: | 10 mg/m ³ res |

10. STABILITY AND REACTIVITY

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|---------------------------------|--|
| <i>Stability</i> | This material is stable at ambient temperature and atmosphere pressure. |
| <i>Conditions to Avoid</i> | None |
| <i>Incompatible Materials</i> | Strong oxidizing agents, strong basis, hydrofluoric acid, fluorine, oxygen difluoride, chlorine trifluoride and manganese trioxide |
| <i>Decomposition Products</i> | On contact with hydrofluoric acid, silicon dioxide may emit silicon tetrafluoride |
| <i>Hazardous Polymerization</i> | Will not occur |

11. TOXICOLOGICAL INFORMATION

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| <i>Health Hazards (Acute and Chronic)</i> | The pure unaltered form is considered nontoxic. Some deposits contain small amounts of crystalline quartz and are therefore fibrogenic. When diatomaceous earth is calcined (with or without fluxing agents) some silica is converted to cristobalite and is therefore fibrogenic. (Sax, <i>Dangerous Properties of Industrial Materials</i> , ninth edition) |
|---|---|

Carcinogenicity

| | |
|-------------|-----|
| <i>NTP</i> | No |
| <i>IARC</i> | No |
| <i>OSHA</i> | Yes |

Other Information: IARC Cancer Review: Animal Inadequate Evidence IMEMDT; Human Inadequate Evidence.

Signs and Symptoms of Exposure

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| <i>Inhalation</i> | Coughing, shortness in breath, wheezing, change in breathing capacity and cyanosis |
| <i>Ingestion</i> | No acute or chronic health effects recorded |
| <i>Skin</i> | May cause redness |
| <i>Eye</i> | May cause redness, itching and watering |
| <i>Medical Conditions Generally Aggravated by Exposure</i> | Pre-existing respiratory disorders |

Acute Toxicity

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|--|--|
| <i>Oral LD50</i> | LD50 Oral - Rat - 3,160 mg/kg LD50 Oral - Rat - 7,500 mg/kg |
| <i>Inhalation LC50</i> | No data available |
| <i>Dermal LD50</i> | No data available |
| <i>Other Information</i> | No data available |
| <i>Skin Corrosion/Irritation</i> | No data available |
| <i>Serious Eye Damage/Eye Irritation</i> | No data available |
| <i>Respiratory or Skin Sensitization</i> | No data available |
| <i>Germ Cell Mutagenicity</i> | No data available |

Carcinogenicity

Carcinogenicity - Rat - Inhalation

Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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| <i>IARC</i> | 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Silicon dioxide) |
| <i>ACGIH</i> | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |
| <i>NTP</i> | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| <i>OSHA</i> | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| <i>Reproductive Toxicity</i> | No data available |
| <i>Teratogenicity</i> | No data available |
| <i>Specific Target Organ Toxicity / Single Exposure (Globally Harmonized System)</i> | No data available |
| <i>Specific Target Organ Toxicity / Repeated Exposure (Globally Harmonized System)</i> | No data available |
| <i>Aspiration Hazard</i> | No data available |
| <i>Signs and Symptoms of Exposure</i> | To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated. |
| <i>Synergistic Effects</i> | No data available |
| <i>Additional Information</i> | RTECS: VV7310000 |

12. ECOLOGICAL INFORMATION

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|-------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and Degradability | No data available |
| Bioaccumulative Potential | No data available |
| Mobility in Soil | No data available |
| PBT and vPvB Assessment | No data available |
| Other Adverse Effects | No data available |

13. DISPOSAL CONSIDERATIONS

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| <i>Product</i> | Dispose of in accordance with local, state and federal regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. |
| <i>Contaminated Packaging</i> | Dispose of as unused product. |

14. TRANSPORT INFORMATION

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| DOT | Not a DOT-controlled material (United States). |
| <i>Identification</i> | Not applicable |
| <i>Special Provisions for Transport</i> | Not applicable |

15. REGULATORY INFORMATION

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|---|---|
| OSHA Hazards | Target Organ Effect, Irritant |
| SARA 302 Components | No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. |
| SARA 313 Components | This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. |
| SARA 311/312 Hazards | Acute Health Hazard, Chronic Health Hazard |
| Massachusetts Right to Know Components | Silicon dioxide / CAS No. 7631-86-9 / Revision Date 1993-04-24 |
| Pennsylvania Right to Know Components | Silicon dioxide / CAS No. 7631-86-9 / Revision Date 1993-04-24 |
| New Jersey Right to Know Components | Silicon dioxide / CAS No. 7631-86-9 / Revision Date 1993-04-24 |
| California Prop. 65 Components | This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm. |

16. OTHER INFORMATION

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| Prepared By | ISOFLEX USA PO Box 29475 San Francisco CA 94129 United States |
| Issuing Date | January 12, 2014 |
| Revision Date | July 29, 2021 |
| Revision Number | 2 |
| Revision Note | Required review and update |

ISOFLEX USA's Commonly Used Abbreviations and Acronyms*

| | |
|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ADR | European Agreement Concerning the International Carriage of Dangerous Goods by Road |
| AICS | Australian Inventory of Chemical Substances |
| ALARA | As Low As Is Reasonably Achievable |
| AMU | Atomic Mass Unit |
| ANSI | American National Standards Institute |

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| BLS | Basic Life Support |
| BOD5 | Biochemical Oxygen Demand |
| CAM | Continuous Air Monitor |
| CAS | Chemical Abstracts Service (division of the American Chemical Society) |
| CEN | European Committee for Standardization |
| CERCLA | Comprehensive Environmental Response Compensation and Liability Act |
| CLP | Classification, Labelling and Packaging (European Union) |
| COD | Chemical Oxygen Demand |
| CPR | Controlled Products Regulations (Canada) |
| CWA | Clean Water Act (USA) |
| DAC | Derived Air Concentration (USA) |
| DOE | United States Department of Energy (USA) |
| DOT | United States Department of Transportation (USA) |
| DSL | Domestic Substances List (Canada) |
| EC50 | Half Maximal Effective Concentration |
| ECL | Korean Existing Chemicals List |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| EHS | Environmentally Hazardous Substance |
| ELINCS | European List of Notified Chemical Substances |
| EMS | Emergency Response Procedures for Ships Carrying Dangerous Goods |
| EPA | Environmental Protection Agency (USA) |
| EPCRA | Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 |
| GHS | Globally Harmonized System |
| HMIS | Hazardous Materials Identification System (USA) |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IBC | Intermediate Bulk Containers |
| ICAO | International Civil Aviation Organization |
| IDLH | Immediately Dangerous to Life or Health |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| IMDG | International Maritime Code for Dangerous Goods |
| LC50 | Lethal concentration, 50 percent |
| LD50 | Lethal dose, 50 percent |
| LDLO | Lethal Dose Low |
| LOEC | Lowest-Observed-Effective Concentration |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| MSHA | Mine Safety and Health Administration (USA) |
| NCRP | National Council on Radiation Protection & Measurements (USA) |
| NDSL | Non-Domestic Substances List (Canada) |
| NFPA | National Fire Protection Association (USA) |
| NIOSH | National Institute for Occupational Safety and Health (USA) |
| NOEC | No Observed Effect Concentration |
| N.O.S. | Not Otherwise Specified |
| NRC | Nuclear Regulatory Commission (USA) |
| NTP | National Toxicology Program (USA) |
| OSHA | Occupational Safety and Health Administration (USA) |
| PBT | Persistent Bioaccumulative and Toxic Chemical |
| PEL | Permissible Exposure Limit |
| PICCS | Philippines Inventory of Chemicals and Chemical Substances |
| PIH | Poisonous by Inhalation Hazard |
| RCRA | Resource Conservation and Recovery Act (USA) |
| RCT | Radiation Control Technician |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe) |
| RID | Regulations Concerning the International Transport of Dangerous Goods by Rail |
| RQ | Reportable Quantity |
| RTECS | Registry of Toxic Effects of Chemical Substances |
| SARA | Superfund Amendments and Reauthorization Act (USA) |
| SNUR | Significant New Use Rule (TSCA) |
| TDG | Transportation of Dangerous Goods (Canada) |

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|-------|--|
| TIH | Toxic by Inhalation Hazard |
| TLV | Threshold Limit Value |
| TPQ | Threshold Planning Quantity |
| TSCA | Toxic Substances Control Act |
| TWA | Time Weighted Average |
| UN | United Nations (Number) |
| VOC | Volatile Organic Compound |
| vPvB | Very Persistent Very Bioaccumulative Chemical |
| WGK | Wassergefährdungsklassen (Germany: Water Hazard Classes) |
| WHMIS | Workplace Hazardous Materials Information System |

*One or more of the above-listed items may not appear in this document.

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