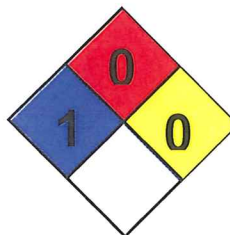


Crystalline Silicon - Arsenic Doped

In an emergency, call MEMC at 363-474-5000



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Crystalline Silicon - Arsenic Doped

Chemical Name: Silicon

Chemical Formula: Si

Synonyms: Polysilicon, Silicon

Company Name: MEMC Electronic Materials, Inc.
501 Pearl Drive
St Peters, MO 63376
636-474-5000

SECTION 2: COMPOSITION & INFORMATION ON INGREDIENTS

Substance Name	Contents	CAS No.	OSHA PEL	ACGIH TLV
Silicon	>99%	7740-21-3	15 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)	Not Established
Inorganic Arsenic	<1%	7440-38-2	0.01 mg/m ³	0.01 mg/m ³

SECTION 3: HAZARDS IDENTIFICATION

NFPA 704 Rating: Health 1, Fire 0, Reactivity 0, Special None

Health Effects or Risks From Exposure: Causes respiratory tract irritation.

Note: Product contains inorganic arsenic that is not expected to be released during normal handling or processing. Arsenic content is not expected to create any additional health hazards.

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SECTION 4: FIRST AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, give oxygen and seek medical attention.
Eye Contact:	Flush with copious amounts of water for at least 15 minutes. If irritation persists, seek medical attention.
Skin Contact:	Remove contaminated clothing. Wash affected area with soap and water. Rinse thoroughly. If irritation persists or other symptoms are observed, seek medical advice.
Ingestion:	Rinse out mouth and drink copious amounts of water. In case of irritation or other symptoms, seek medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flammability Classification (Per 49 CFR Part 173 Subpart D):	Material is not flammable according to definition of a flammable solid in 49 CFR, Part 173, Subpart D.
Known or Anticipated Hazardous Products of Combustion:	None listed
Extinguishing Media:	Use media suitable for surrounding fire. Water-based extinguishing media should not be used for this material.
Fire Fighting Instructions:	Use firefighting measures which suit the environment and take into account other materials which may be involved. Wear self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personnel Protection:	Wear protective equipment including rubber gloves and eye protection. Ensure adequate ventilation. Keep unprotected personnel away.
Environmental Protection:	Take precautions to ensure material does not contaminate the ground or enter the drainage system.
Cleanup/Collection:	Ensure adequate ventilation. Avoid raising dust. Transfer material to sealed containers for disposal.

SECTION 7: HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid generation of dust. Keep containers tightly sealed.
Storage:	Store in a cool, dry location.

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SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Ventilation and Engineering Controls:	Use general or local exhaust ventilation if necessary. Material transfer and dust collection equipment should be constructed of conductive materials and electrically interconnected (bonded) and grounded.
Respiratory Protection:	Wear NIOSH (U,S,) or CEN (EU) approved dust respirator if exposure exceeds occupational exposure limit.
Eye Protection:	Splash goggles or safety glasses.
Hand Protection:	Wear chemical resistant gloves.
Body Protection:	Use body protection appropriate for task. An apron or other impermeable body protection is suggested.
General Hygiene Measures:	Keep away from foodstuffs, beverages and feed. Remove all soiled/contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with eyes and skin.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Steel grey crystal or dark brown powder
Odor:	Odorless
Physical state at atmospheric conditions:	Solid
pH:	Not applicable
Sublimation Temperature (at 1 atm):	Not determined
Solubility in Water:	Insoluble
Melting Point:	1410° C (2750° F)
Boiling Point:	2355° C (4271° F)
Specific gravity/Density:	2.33 g/cm ³ at 20° C (68° F)
Molecular Weight:	28.1 (silicon)
Flammability:	Not applicable
Flash Point:	Not applicable
Flammability Limits in Air:	Not applicable
Auto Ignition Temperature:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	Avoid generation of airborne dusts. When heated, silicon will react with water to produce flammable and/or explosive hydrogen gas.
Incompatibility with Other Materials:	Water, alkali metals, oxidizing agents, acids, basis, interhalogens, halogens.

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SECTION 10: STABILITY AND REACTIVITY (continued)

Hazardous Decomposition, Reaction and Oxidation (other than burning) Products: Not known

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

RTECS Number: VW0400000 (Silicon)

Acute Toxicity: Oral, LD50, 3160 mg/kg, rat

Chronic and Subchronic Data: Elementary silicon is an inert material that seems to have little adverse effect on lungs and does not appear to produce significant organic disease or toxic effects when exposures are kept under reasonable control.

Special Studies: None known to MEMC Pasadena, Inc.

Suspected cancer agent: Silicon is not found on the following lists: FEDERAL OSHA Z LIST, IARC, NTP, and California and therefore is neither considered to be nor suspected to be a cancer-causing agent by these agencies.

Inorganic arsenic is listed as carcinogenic by OSHA, ACGIH, IARC, NTP, and California. Inorganic arsenic in this product is not expected to be released during normal handling or processing.

Irritancy of product: Silicon is irritating to respiratory system.

Sensitization of product: Silicon is not known to be a sensitizer to humans upon prolonged or repeated contact.

Reproductive toxicity information: Listed below is information concerning the effects of Silicon on the human reproductive system.

Mutagenicity: No human mutagenic effects have been described for Silicon.

Embryotoxicity: No human embryotoxic effects have been described for Silicon.

Teratogenicity: No human teratogenic effects have been described for Silicon.

Reproductive Toxicity: No human reproductive effects have been described for Silicon.



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SECTION 12: ECOLOGICAL INFORMATION

Ecological Effects: Take care to prevent material from entering the ground, water courses or drainage systems.

SECTION 13: DISPOSAL CONSIDERATIONS

Consult local, state or national regulations to endure proper disposal.

SECTION 14: TRANSPORTATION INFORMATION

This material is considered as non-hazardous and non-regulated as defined by 49 CFR 172.101.

SECTION 15: REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS:

U.S. Sara Reporting Requirements: Silicon is subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, as follows:

<u>CHEMICAL NAME</u>	<u>SARA 302</u> (40 CFR 355, Appendix A)	<u>SARA 304</u> (40 CFR Table 302.4)	<u>SARA 313</u> (40 CFR 372.65)
Silicon	No	No	No
Inorganic Arsenic	No	Yes	Yes

U.S. SARA Threshold Planning Quantity: 10,000 lbs.

U.S. CERCLA Reportable Quantity (RQ): Inorganic Arsenic – 1 lb.

U.S. TSCA Inventory Status: Silicon and inorganic arsenic are listed on the TSCA Inventory.

Other U.S. Federal Regulations: Silicon is not subject to the reporting requirements of CFR 29.1910.1000.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): Inorganic arsenic is on the California Proposition 65 list.

Pennsylvania Right To Know: Silicon, Inorganic arsenic

New Jersey Right To Know: Silicon, Inorganic arsenic

Canadian Regulatory Information: The ingredients in this product have been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR. DSL – Yes, NDSL – No.

E.U. Risk Phrases: 37 Irritating to respiratory system.

SECTION 16: OTHER INFORMATION

Disclaimer

MEMC Pasadena, Inc. cannot guarantee that these are the only hazards that exist. Users are solely responsible for the safe storage, handling, use and disposal of this material, and for compliance with the applicable laws, regulations and accepted practices. MEMC Pasadena, Inc. makes no representations or warranties; either expressed or implied, of merchantability, fitness for a particular purpose, or any other nature.

