



LTS Research Laboratories, Inc.
Safety Data Sheet
Iron Silicide

1. Product and Company Identification

Trade Name: Iron Silicide
Chemical Formula: Fe₃Si
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 37 Ramland Road
City: Orangeburg
State: New York
Zip Code: 10962
Country: USA
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H228: Flammable Solid
H251: Self-heating; may catch fire

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces- No smoking
P235+P410: Keep Cool, Protect from Sunlight
P240: Ground/bond container and receiving equipment
P241: Use explosion-proof electrical/ventilating/lighting/equipment
P280: Wear protective gloves/protective clothing/eye protection/face protection
P403+P233: Store in a well-ventilated place. Keep container tightly closed
P407: Maintain airgap between stacks and pallets
P420: Store away from other materials

HMIS Health Ratings (0-4):

Health: 1
Flammability: 3
Physical: 0

3. Composition

Chemical Family: Ceramic
Additional Names: Suessite

Iron Silicide (Fe₃Si):
Percentage: 0-100 wt%
CAS #: 12023-54-0
EC #: N/A

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Clean Mouth with water.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability:	Flammable. Dust can form an explosive mixture in air.
Extinguishing Media:	Special powder or extinguishing powder for metal fires. Do not use water, foam or carbon dioxide (CO ₂)
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust. Keep unprotected personnel away
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling. Avoid dust formation. May form combustible dust concentrations in air. Take precautionary measures against static discharges.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	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.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	5 mg/m ³ as Si, Respirable fraction, long-term value
Threshold Limit Value:	N/A
Special Equipment:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	195.62 g/mol

10. Reactivity

Stability:	Moisture sensitive
Reacts With:	Oxidizing agents, acids, fluorine, halogenated agents, halogens, oxygen, nitriles, aldehydes
Incompatible Conditions:	Moisture, excess heat
Hazardous Decomposition Products:	Metal oxide fume, silicon dioxide

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	3000 mg/kg for rat by mouth (as Fe)
Carcinogen:	The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic effects for Iron (Fe).

12. Ecological Information

Aquatic Toxicity:	Toxicity to fish: LC50 = 13.6 mg/L, 96h static (Morone saxatilis)
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not empty into drains. Contains substance harmful to aquatic organisms.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous: Hazardous as powder only.



Hazard Class: 4.2 Spontaneously combustible materials
Packing Group: II
UN Number: UN3190
Proper Shipping Name: Self-heating solid, inorganic, n.o.s (Iron Silicide)

15. Regulatory Information

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: No

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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