

## MATERIAL SAFETY DATA SHEET

## GRAPHIDOX

**EMERGENCY NO.:** 800-424-9300 (CHEMTREC)

To be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals.

Original Date: 11/01/85; Revision Date: 03/16/05; To Replace: 02/05/04

**SECTION 1 PRODUCT INFORMATION**

<b>Product Family or Name:</b>	Ferrosilicon	<b>CAS No.</b>	8049-17-0
<b>Formula:</b>	Fe-Si-Ti-Ca	<b>Synonyms:</b>	None
<b>Products Covered:</b>	See Front Sheet		

**US/Canada/Mexico:** Non-DOT regulated material**Other Information: Shipping****Name:** Ferrosilicon UN 1408-(For transportation via water or internationally)**SECTION 2 PHYSICAL DATA**

<b>Appearance &amp; Odor:</b>	Silvery gray metallic; no odor	<b>Melting Point Range:</b>	2265/2468°F
<b>Specific Gravity:</b>	3.5 – 4.25	<b>Solubility:</b>	None
<b>Other: Bulk Density</b>	2" x down, approx. 130 lbs/cu ft		

**SECTION 3 PRINCIPLE ALLOY INGREDIENTS & TLV DATA**

Significant Ingredients		CAS No.
Silicon (Si)	50.0 – 55.0%	7440-21-3
Iron (Fe)	27.0 – 41.0%	7439-89-6
Titanium (Ti)	8.0 – 12.0%	7440-32-6
Calcium (Ca)	0.5 – 7.0%	7440-70-2

**OSHA PEL (mg/m3)**

Elemental Silicon	Total – 15 Respirable – 5
CaO	5
Titanium	none known

**SECTION 4 FIRE & EXPLOSION DATA****Combustibility:****Lump Material:** None**Fine Material:** Using a combustibility test, combustibility of minus 325 mesh material is weak. Dust can be ignited when suspended in air; will propagate flame but is not expected to generate sufficient pressure to explode.**Extinguishing Media:** Dry powder, dry sand, isolate fire and allow to burn out.**SECTION 5 HEALTH HAZARD DATA****First Aid Procedures:****Inhalation:** Remove to fresh air.**Effects of Overexposure:****Acute:** Alloy is non-toxic in lump form and no residual effects are expected. High concentrations of dust will cause some irritation of eyes, nose, and throat.**Skin Contact:** No known hazard.**Eye Contact:** Flush eyes with water to ensure that no particles remain in eye.**Chronic:** Similar to acute. No residual effects are expected.**Carcinogenicity:**

National Toxicology Program: No

IARC Monographs: No

OSHA: No

**SECTION 6 REACTIVITY DATA**

<b>Stability</b>	Stable
<b>Conditions to Avoid:</b>	Avoid contact with moisture during storage and handling.
<b>Materials to Avoid:</b>	Caution should be observed when using with oxidizers and acids. Avoid associated or resulting fumes.
<b>Hazardous Reaction/ Decomposition Products:</b>	Hydrogen, arsine, or phosphine may evolve if moisture is present or if material is wet.

**SECTION 7 SPILL, LEAK, AND DISPOSAL INFORMATION**

<b>Steps to be Taken in Case of Spills:</b>	Collect material and store in dry container. Do not collect wet material in a sealed container; use any other type of dry, vented suitable container. Do not use wet material.
<b>Waste Disposal:</b>	Dispose in accordance with Federal, State, and Local Regulations.

**SECTION 8 EMPLOYEE PROTECTION INFORMATION**

<b>Respiratory Protection:</b>	Lump: None
	Dust or Fine: NIOSH approved respirator in excessive dust environment.
<b>Eye Protection:</b>	Standard safety glasses.
<b>Ventilation:</b>	Local exhaust when necessary to achieve dust control & general ventilation to achieve air change in enclosed spaces.
<b>Other Clothing &amp; Equipment:</b>	Standard hand protection required as metal may have sharp edges. Avoid contamination of clothing.

**SECTION 9 ADDITIONAL INFORMATION**

<b>Handling/Storage:</b>	No problems are expected when handling or storing in ventilated areas.
<b>Milling:</b>	No problems are expected when sizing to minus 8 mesh. Precautions such as the use of inert atmosphere are advisable when sizing to minus 200 mesh with more than 50% minus 325 mesh. Grinding wet material may be hazardous due to the possibility of hydrogen, arsine or phosphine evolution.

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**IMPORTANT:** The purpose of this sheet is to set out pertinent information, which may be necessary to evaluate health, safety, & environmental hazards when handling the material & to set forth safety precautions for safe handling of the material. Handling practices set forth herein are recommended minimums. CC Metals and Alloys, LLC. assumes no responsibility in the safe handling of the material by others & makes no representation or warranty, expressed or implied, as to completeness, accurateness, or currency of any data contained herein.