

(MATERIAL) SAFETY DATA SHEET

Section 1 - Product and Company Identification

Material Name	▪ Natural Graphite
Chemical Name	▪ Natural Graphite
CAS Number	▪ 7782-42-5
EINECS	▪ 231-955-3
Molecular Formula	▪ C
Product Use	▪ Friction reduction applications, lubricants, coatings.
Manufacturer	▪ Superior Graphite 10 S. Riverside Plaza Chicago, IL 60606 United States
Telephone	
General	▪ 312-559-2999
<u>Emergency</u>	▪ 312-559-2999
Preparation Date	▪ 07/16/1991
Last Revision Date	▪ 02/21/2011

Section 2 - Hazards Identification

Emergency Overview

DANGER

May cause cancer via Inhalation. Causes damage to organs -Lungs, Silicosis through prolonged or repeated exposure via Inhalation.

Prevention Do not breathe dusts or mists. Do not eat, drink or smoke when using this product. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Wash skin thoroughly after handling.

Response IF exposed or concerned: Get medical advice/attention.

Storage/Disposal Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.



Graphite is non-flammable in bulk form, but combustible in finely divided form. Mixtures of graphite dust and air are explosive when ignited. Dust may be irritating to skin, eyes, and respiratory tract. Inhalation of dust may cause lung effects including silicosis and cancer.

Physical Form	▪ Solid
Color	▪ Silver, gray to black

- Odor**
- No odor.
- OSHA**
- Carcinogen
- WHMIS**
- Class D - Poisonous and Infectious Materials - Division 2 - Subdivision A



- EU**
- Harmful - Xn, Carcinogenic Substances - Category 1 - Carc.Cat.1
R48/20, R49



- GHS**
- Specific Target Organ Toxicity Repeated Exposure - Category 1, Carcinogenicity - Category 1A

- Route Of Entry**
- Skin
- Target Organs**
- Lungs, Silicosis
- Medical Conditions Aggravated by Exposure**
- Lungs

NFPA:



Potential Health Effects

Inhalation

- Acute (Immediate)**
- Exposure to dust may cause irritation.
- Chronic (Delayed)**
- Repeated and prolonged exposure to dust may cause lung effects including pneumoconiosis, silicosis, and cancer.

Skin

- Acute (Immediate)**
- Exposure to dust may cause mechanical irritation.
- Chronic (Delayed)**
- No data available.

Eye

- Acute (Immediate)**
- Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.
- Chronic (Delayed)**
- No data available.

Ingestion

- Acute (Immediate)**
- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.
- Chronic (Delayed)**
- No data available.

Carcinogenic Effects

- Repeated and prolonged exposure may cause lung cancer. This product contains crystalline silica as quartz. IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans (Monograph 68, 1997) concludes that there is sufficient evidence for the carcinogenicity of crystalline silica to humans (IARC Group I). Crystalline Silica is classified as a Known Carcinogen according to NTP.

Carcinogenic Effects			
	CAS	IARC	NTP
Quartz (SiO ₂)	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen

Section 3 - Composition/Information on Ingredients

Hazardous Components

Chemical Name	CAS	%(weight)	UN;EINECS	LD50/LC50	EU Classification & R Phrases	Other
Quartz (SiO ₂)	14808-60-7	2% TO 12%	238-878-4	NDA	NDA	<5% respirable
Graphite	7782-42-5	>= 60%	231-955-3	NDA	NDA	NDA

Under United States Regulations (29 CFR 1900.1200 - Hazard Communication Standard), this product is considered hazardous. In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS). This product is considered dangerous according to the European Directive 67/548/EEC. According to Japanese Industrial Standard (JIS Z 7250:2005) this product is considered hazardous. According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered hazardous.

Section 4 - First Aid Measures

- Inhalation**
- Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. If breathing is difficult get medical attention.
- Skin**
- IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If irritation develops and persists, get medical attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Get medical attention.
- Ingestion**
- Do NOT induce vomiting. Rinse mouth. Do not give anything by mouth to an unconscious person. Get medical attention.
- General Information**
- Call 911 or emergency medical service. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Section 5 - Fire Fighting Measures

- Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.
 - SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.
- Unsuitable Extinguishing Media**
- No data available.
- Firefighting Procedures**
- LARGE FIRES: Move containers from fire area if you can do it without risk.
 - LARGE FIRES: Do not scatter spilled material with high pressure water streams.
 - LARGE FIRES: Dike fire-control water for later disposal.
- Unusual Fire and Explosion Hazards**
- Dust dispersed in air in sufficient concentrations and in the presence of an ignition source is an explosion hazard.
- Hazardous Combustion Products**
- Graphite will burn, giving off carbon dioxide and potentially carbon monoxide.
- Protection of Firefighters**
- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

- Personal Precautions**
- Avoid contact with material that generates respirable dust unless proper PPE is used.
- Emergency Procedures**
- Use normal cleanup procedures.
- Environmental Precautions**
- LARGE SPILLS: Prevent entry into waterways, sewers, basements or confined areas.
- Containment/Clean-up Measures**
- Avoid dispersal of dust in the air.
 - SMALL SPILLS: Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Wash floor with soap and water.
 - LARGE SPILLS: Cover powder spill with plastic sheet or tarp to minimize spreading.


Prohibited Materials ▪ No data available

Section 7 - Handling and Storage

- Handling** ▪ Avoid accumulation of dust. Good housekeeping practices should be in place to prevent accumulation of dusts on surfaces. Do not use in areas without adequate ventilation. Graphite is conductive and can cause short circuits and other electrical malfunctions. Graphite causes slippery conditions.
- Storage** ▪ Ventilate enclosed areas. Keep container closed.
- Special Packaging Materials** ▪ No data available
- Incompatible Materials or Ignition Sources** ▪ If dusts are generated during processing eliminate ignition sources.

Section 8 - Exposure Controls/Personal Protection

Personal Protective Equipment

- Pictograms** ▪ 
- Respiratory** ▪ For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.
- Eye/Face** ▪ Wear protective eyewear (goggles, face shield, or safety glasses). Eye wash station should be available.
- Hands** ▪ Wear protective gloves -cotton gloves.
- Skin/Body** ▪ Wear long sleeves and/or protective coveralls.
- General Industrial Hygiene Considerations** ▪ Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.
- Engineering Measures/Controls** ▪ Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. All dust control equipment should contain explosion relief vents or an explosion suppression system or an oxygen- deficient environment. Make sure that dust handling systems are designed to prevent escape of dust into the work area and that they do not leak.

Exposure Limits/Guidelines					
	Result	ACGIH	Canada Ontario	China	NIOSH
Quartz (SiO ₂) (14808-60-7)	STELs	Not established	Not established	2 mg/m ³ STEL (10%-50% free SiO ₂ , total dust); 1.4 mg/m ³ STEL (50%-80% free SiO ₂ , total dust); 1 mg/m ³ STEL (containing >80% free SiO ₂ , total dust); 1.4 mg/m ³ STEL (10%-50% free SiO ₂ , respirable dust); 0.6 mg/m ³ STEL (50%-80% free SiO ₂ , respirable dust); 0.4 mg/m ³ STEL (containing >80% free SiO ₂ , respirable dust)	Not established
	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.10 mg/m ³ TWAEV (designated substance regulation)	1 mg/m ³ TWA (containing 10%-50% free SiO ₂ , total dust); 0.7 mg/m ³ TWA (containing 50%-80% free SiO ₂ , total dust); 0.5 mg/m ³ TWA (containing >80% free SiO ₂ , total dust); 0.7 mg/m ³ TWA (containing 10%-50% free SiO ₂ , respirable dust); 0.3 mg/m ³ TWA (containing 50%-80% free SiO ₂ , respirable dust); 0.2 mg/m ³ TWA (containing >80% free SiO ₂ , respirable dust)	0.05 mg/m ³ TWA (respirable dust)
Graphite (7782-42-5)	STELs	Not established	Not established	8 mg/m ³ STEL (total dust); 4 mg/m ³ STEL (respirable dust)	Not established
	TWAs	2 mg/m ³ TWA (all forms except graphite fibers, respirable fraction)	2 mg/m ³ TWAEV (except graphite fibers, respirable)	4 mg/m ³ TWA (total dust); 2 mg/m ³ TWA (respirable dust)	2.5 mg/m ³ TWA (respirable dust)

Exposure Control Notations

Canada Ontario

•Quartz (SiO₂) (14808-60-7): **Designated Substances:** (0.10 mg/m³ TWAEV)

ACGIH

•Quartz (SiO₂) (14808-60-7): **Carcinogens:** (A2 - Suspected Human Carcinogen)

Exposure Limits Supplemental

OSHA

•Quartz (SiO₂) (14808-60-7): **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction)

•Graphite (7782-42-5): **Mineral Dusts:** (15 mppcf TWA)

ACGIH

•Quartz (SiO₂) (14808-60-7): **TLV Basis - Critical Effects:** (lung cancer; pulmonary fibrosis)

•Graphite (7782-42-5): **TLV Basis - Critical Effects:** (pneumoconiosis (all forms except graphite fibers))

Key to abbreviations

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWAEV = Time-Weighted Average Exposure Value

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 12 - Ecological Information

- Ecological Fate** ▪ No data available.
- Persistence/Degradability** ▪ No data available.
- Bioaccumulation Potential** ▪ No data available.
- Mobility in Soil** ▪ No data available.

Section 13 - Disposal Considerations

- Product** ▪ Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging** ▪ Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transportation Information

DOT - United States - Department of Transportation

Shipping Name: Not Regulated

TDG - Canada - Transport of Dangerous Goods

Shipping Name: Not Regulated

IMO/IMDG –International Maritime Transport

Shipping Name: Not Regulated

ADN - Europe Transport of Dangerous Goods by Road/Inland Waterway

Shipping Name: Not Regulated

ADR - Europe Transport of Dangerous Goods by Road/Inland Waterway

Shipping Name: Not Regulated

Section 15 - Regulatory Information

- SARA Hazard Classifications** ▪ Chronic
- Risk & Safety Phrases** ▪ R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R49 May cause cancer by inhalation.
S22 Do not breathe dust.
S51 Use only in well ventilated areas.
S53 Avoid exposure - obtain special instructions before use.

State Right To Know

Component	CAS	MA	NJ	PA
Graphite	7782-42-5	Yes	Yes	Yes
Quartz (SiO2)	14808-60-7	Yes	Yes	Yes

Inventory						
Component	CAS	China	Canada DSL	EU EINECS	TSCA	Japan ENCS
Graphite	7782-42-5	Yes	Yes	Yes	Yes	No
Quartz (SiO ₂)	14808-60-7	Yes	Yes	Yes	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Quartz (SiO₂) 14808-60-7 2% TO 12% D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Silica, crystalline, encapsulated on Health Canada's WHMIS website.)
- Graphite 7782-42-5 >= 60% D2A (natural); D2B (synthetic)

Canada - WHMIS - Ingredient Disclosure List

- Quartz (SiO₂) 14808-60-7 2% TO 12% 1 %

Environment

Canada - CEPA - Priority Substances List

None Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

None Listed

Japan

Environment

Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances

None Listed

Japan - Pollutant Release Transfer Register (PRTR) - Class 2 Substances

None Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

None Listed

U.S. - OSHA - Specifically Regulated Chemicals

None Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

- Quartz (SiO₂) 14808-60-7 2% TO 12% carcinogen, initial date 10/1/88 (airborne particles of respirable size)

United States - Rhode Island

Labor

U.S. - Rhode Island - Hazardous Substance List

- Quartz (SiO₂) 14808-60-7 2% TO 12% Toxic (dust and fiber)
- Graphite 7782-42-5 >= 60% Toxic

Section 16 - Other Information

Preparation Date

- 07/16/1991

Last Revision Date

- 02/21/2011

Disclaimer/Statement of Liability

- The information contained herein is based on data available. However, no warranty is expressed or implied regarding the accuracy of the data or the results obtained from the use thereof. Because the information contained herein may be applied under conditions beyond our control, we assume no responsibility for its use.

Key to abbreviations

NDA = No data available