



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name GRAPHITE POWDER
Product Number 50870
Brand Fluka Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052

Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
NATURAL GRAPHITE	7782-42-5	No	231-955-3	

Formula C
Synonyms Aerodag G, AG 1500, Aquadag, AS 1, AT 20, ATJ-S, ATJ-S graphite, Black lead, Carlub, CB 50, Ceylon Black Lead, C.I. 77265, C.I. Pigment Black 10, CPB 5000, DC 2, EG 0, Electrographite, EXP-F, Fortafil 5Y, GK 2, GK 3, GP 60, GP 63, GP 60S, Grafoil, Grafoil GTA, Graphite (all forms except graphite fibers), Graphite, natural (OSHA), Graphinol N 3M, GS 2, GY 70, H 451, Hitco HMG 50, IG 11, Korobon, MG 1, Mineral carbon, MPG 6, Papyex, PG 50, Plumbago, Plumbago (graphite), Pyro-Carb 406, Rocol X 7119, S 1, S 1 (Graphite), Schungite, Shungite, Silver graphite, SKLN 1, Stove Black, Swedish Black Lead, Ucar 38, VVP 66-95

Section 3 - Hazards Identification

Emergency Overview
Irritant.
Irritating to eyes and respiratory system.

HMIS Rating
Health: 2 Flammability: 0 Reactivity: 0

NFPA Rating
Health: 2 Flammability: 0 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media
Suitable
Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store in a cool dry place.

Incompatible Materials
Incompatible with: chlorine trifluoride, fluorine, and potassium superoxide. Reacts at 300°C with potassium, sodium, rubidium, and cesium to give intercalation compounds (c8m). These compounds ignite in air and may react explosively with water.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment
Respiratory
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Exposure Limits, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	2 MG/M3
USA	ACGIH	TWA	2 MG/M3
USA	OSHA	PEL	8H TWA 15 MPPCF
USA	OSHA	PEL	8H TWA 15 MPPCF
New Zealand	OEL		
Remarks: check ACGIH TLV			
New Zealand	OEL		
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	2.5 MG/M3
USA	NIOSH	TWA	2.5 MG/M3

Section 9 - Physical/Chemical Properties

Appearance	Color	Form
Physical State	Grey	Powder
Solid		

Molecular Weight:	12.01 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	3,652 - 3,697 °C
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	1.9 g/cm3
Bulk Density	N/A
Odor Threshold	N/A
Volatle%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A

Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.
Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.
Skin Absorption
May be harmful if absorbed through the skin.
Eye Contact
Causes eye irritation.
Inhalation
May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion
May be harmful if swallowed.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: MD9659600

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xi

Indication of Danger

Irritant.

Risk Statements

R: 36/37

Irritating to eyes and respiratory system.

Safety Statements

S: 22 26 36

Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Classification and Label Text

Indication of Danger

Irritant.

Risk Statements

Irritating to eyes and respiratory system.

Safety Statements

Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information

WHMIS Classification

This product has 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

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.



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