

# Safety Data Sheet Comparison

Graphite powder

Lithium Carbonate

Classroom Chalk

# Graphite Powder

## Section 9. Physical and chemical properties

Appearance	Greenish Blue Solid
Odor	Odorless
Odor threshold	No available information
pH	Not Measured
Melting point / freezing point	3652.2 - 3697.2 °C / 6606 - 6687 °F
Initial boiling point and boiling range	Not Measured
Flash Point	Not flammable so no flashpoint
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	No available information
Upper/lower flammability or explosive limits	<b>Lower Explosive Limit:</b> Not Measured <b>Upper Explosive Limit:</b> Not Measured
Vapor pressure (Pa)	Negligible
Vapor Density	Not Applicable
Specific Gravity	2.09 - 2.25
Solubility in Water	Insoluble in Water.
Partition coefficient n-octanol/water (Log Kow)	No available information
Auto-ignition temperature	730 °C / 1346 °F
Decomposition temperature	Not Measured
Viscosity (cSt)	Not applicable
Particle Characteristics	
9.2. Other information	No other relevant information.

# Chalk

## SECTION 9

## Physical & Chemical Properties

Appearance	Solid (various colours)
Odour	Not available
Odour threshold	Not available
pH	Not available
Melt point / freeze point	Not available
Boiling point	Not available
Flash point	Not available
Flammability	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Relative density	Not available
Solubility in water	Immiscible
Specific Gravity	Not available

# Lithium Carbonate

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: powder Color: white
b) Odor	odorless
c) Odor Threshold	No data available
d) pH	9.0 - 11.0 at 1 g/l
e) Melting point/freezing point	Melting point/range: 618 °C (1144 °F) - lit.
f) Initial boiling point and boiling range	No data available
g) Flash point	( )No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	The product is not flammable.
j) Upper/lower flammability or	No data available

# Graphite Powder

## Section 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number			
14.2. UN proper shipping name	NOT REGULATED	NOT REGULATED	NOT REGULATED
14.3. Transport hazard class(es)	DOT Hazard Class:	IMDG:	Air Class:
14.4. Packing group			
14.5. Environmental hazards			
	Marine Pollutant: No;		
14.6. Special precautions for user	No available information		

### IMDG/IMO

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

### ADR/RID

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

### ICAO/IATA

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

Not regulated.

Not regulated.

Not regulated.

No hazards identified.

No special precautions required.

# Lithium Carbonate

**This Material is not Hazardous as defined by 49 CFR 172.101 by the U.S. Department of Transportation.**

**Proper Shipping Name:** Not Regulated

**Hazard Class Number and Description:** Not Applicable

**UN Identification Number:** Not Applicable

**Packing Group:** Not Applicable

**DOT Label(s) Required:** Not Applicable

**North American Emergency Response Guide Number (2008):** Not Applicable

**Marine Pollutant:** Lithium Carbonate is not designated as a Marine Pollutant by the DOT (per 49 CFR 172.101, Appendix B).

# Chalk

# Graphite Powder

## 5.1 Extinguishing media

### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

## 5.2 Special hazards arising from the substance or mixture

Carbon oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

## 5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

## 5.4 Further information

none

# Lithium Carbonate

## Unsuitable Extinguishing Media

No information available

## Flash Point Method -

Not applicable

No information available

## Autoignition Temperature

No information available

## Explosion Limits

### Upper

No data available

### Lower

No data available

## Sensitivity to Mechanical Impact

No information available

## Sensitivity to Static Discharge

No information available

## Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

## Hazardous Combustion Products

None under normal use conditions.

## Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

#### Extinguishing media which shall not be used for safety reasons

No information available.

### 5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

### 5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

# Chalk

# Graphite Powder

## 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

# Lithium Carbonate

## Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	30,3 mg/l	fish	ECHA	96 h
EC50	33,2 mg/l	aquatic invertebrates	ECHA	48 h
ErC50	>400 mg/l	algae	ECHA	72 h

## Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
EC50	>1,7 mg/l	aquatic invertebrates	ECHA	21 d

## Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

## 12.1 Toxicity

### Ecotoxicity effects

Do not empty into drains. The product contains following substance(s) which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Diiron trioxide (1309-37-1)	No data available.	LC0: > 50000 mg/L/96h (Danio rerio)	No data available.	EC50: >100 mg/L/48h
Pigment Green 7 (1328-53-6)	No data available	LC50:>250 ppm 48h (Oryzias latipes)	No data available	No data available

### 12.2 Persistence and degradability

No information available.

# Chalk

### 12.2 Persistence and degradability

No information available.

## Section 12 – Ecological Information

12.1 Toxicity:	Natural graphite is inert and insoluble. To the best of our knowledge, natural graphite does not present any significant environmental hazards.			
12.1.1 Aquatic Toxicity: Graphite is not water soluble and does not present a soluble-ion hazard. Fine graphite particles suspended in natural water bodies may be harmful to organisms sensitive to suspended solids.				
Aquatic toxicity	Effect dose	Exposure time	Method	Remarks
Acute fish toxicity	LC50 > 100 mg/l	96 hour	OECD 203 (EU method C.1)	No adverse reaction up to the tested concentration could be observed.
Acute daphnia toxicity	EC50 > 100 mg/l	48 hour	OECD 202 (EU method C.2)	No adverse reaction up to the tested concentration could be observed.
Acute algae toxicity	EC50 > 100 mg/l	72 hour	OECD 201 (EU method C.3)	No adverse reaction up to the tested concentration could be observed.