

CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Graphite**C****CAS No.: 7782-42-5**

Synonyms: Plumbago, Black lead, Mineral carbon

Physical Properties**Exposure Limits**

Dark gray to black, slippery feeling, odorless flakes or lumps.
Vapor pressure at 20 °C: negligible
Sublimes when heated to temperatures exceeding 3700 °C

OSHA PEL: 2.5 mg/m³ (respirable fraction)
ACGIH TLV: 2 mg/m³ (respirable dust)

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with: Oxidizing agents*
1	2	0	0	No	No	

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

***Reactivity Hazards**

With very strong oxidizing agents such as fluorine, chlorine dioxide, and potassium peroxide, the reaction with graphite is violent. Mixtures of graphite dust and air are explosive when ignited. In bulk forms such as graphite crucibles, graphite is almost inert.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9?

No

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace?*

No

Typical symptoms of acute exposures:

In the eyes, discomfort. If inhaled, coughing, breathing difficulty.

Principal target organ(s) or system(s):

Eyes, respiratory system.

Storage Requirements

Store with other combustibles in a cool, dry, well-ventilated location, away from ignition sources and separated from oxidizing agents.

Additional Remarks

The PEL value cited above pertains to natural graphite containing less than 1% quartz; it does not pertain to graphite containing 1% or more than 1% quartz, nor does it pertain to graphite fibers. The TLV cited above pertains to all forms of graphite except graphite fibers. Some crystalline silica is likely present in graphite; exposure to crystalline silica should meet the TLV requirement for the form(s) of silica present in the graphite (see the MSDS for details).

Notes**ReadMe**

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed.* For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at <http://www.sis.nlm.nih.gov> and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed.* See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*, Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. µg/m³—micrograms per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

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