SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-CZ-00001
Product Name	Graphite
CAS No.	7782-42-5
Category	Inorganics
Synonyms	Graphene nanoplatelets
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Serious eye damage/eye irritation (Category 2)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H319	Causes serious eye irritation.
H335	Not available

Precautionary Statement(s)

Code	Statement
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264+P265	Not available
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen
P319	Get medical help if you feel unwell.
P337+P317	If eye irritation persists: Get medical help.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Graphite
CAS Number : 7782-42-5
Molecular Formula : C
Molecular Weight : 12.01
Parent Chemical : .
Synonyms : Graphene nanoplatelets
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
General advice: Seek medical attention if symptoms persist or are severe. Show this SDS to the physician.
Inhalation: Remove person to fresh air. If breathing is difficult, seek medical attention.
Skin contact: Wash with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation develops.
Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
Ingestion: Rinse mouth. Do not induce vomiting. Seek medical attention if feeling unwell.

4.2 Most important symptoms/effects, acute and delayed
May cause mechanical irritation to eyes, skin, and respiratory tract due to dust. Additional information: Not available.

4.3 Indication of immediate medical attention and special treatment needed

Treat symptomatically. No data available.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire (e.g., water spray, dry chemical, foam, carbon dioxide).
Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance or mixture
Combustible dust may form explosive mixtures with air under certain conditions. Thermal decomposition may produce carbon oxides. Additional hazards: Not available.

5.3 Advice for firefighters
Wear self-contained breathing apparatus (SCBA) and full protective gear. Avoid generating and dispersing dust. Use water spray to cool containers exposed to fire if safe to do so.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing dust. Avoid contact with eyes and skin. Provide adequate ventilation. Wear appropriate personal protective equipment.

6.2 Environmental precautions
Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up
Avoid raising dust. Sweep up or vacuum using equipment suitable for dust collection. Place in a suitable, closed container for disposal. Clean spill area with methods that minimize dust generation.

6.4 Reference to other sections
See Section 8 for personal protective equipment and Section 13 for disposal considerations.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust. Avoid contact with eyes. Use with adequate ventilation. Keep away from ignition sources where dust may be present.

7.2 Conditions for safe storage, including any incompatibilities
Store in a tightly closed container in a cool, dry, well-ventilated place. Protect from physical damage.
Incompatibilities: Not available.

7.3 Specific end use(s)
Not available.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Occupational exposure limits: Not available.
Biological limit values: Not available.

8.2 Exposure controls
Engineering controls: Provide local exhaust ventilation or general dilution ventilation to control airborne dust.
Personal protective equipment (PPE):
- Eye/face protection: Safety glasses with side shields or chemical safety goggles as appropriate.
- Skin protection: Protective gloves and work clothing as appropriate.
- Respiratory protection: Use a NIOSH/MSHA-approved (or equivalent) particulate respirator if dust is generated and ventilation is inadequate.
- Hygiene measures: Wash hands after handling. Do not eat, drink, or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available

Property	Value
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid
Avoid dust generation and accumulation. Avoid heat, sparks, open flames, and other ignition sources where dust may be present.

10.5 Incompatible materials
Not available.

10.6 Hazardous decomposition products
Carbon oxides. Additional decomposition products: Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: /SURVEILLANCE/ The 42 patients admitted to our Burn Center from January 1, 1994 to December 31, 2005, with electrical and fire burn injuries caused by electricity-conducting graphite-carbon fishing rods touching overhead high voltage electrical lines were ... studied retrospectively. All patients were men, with a mean age of 40.33 years. The majority of patients (59.5%) were burned with less than 10%, mostly deep burns. The hand was the predominant electricity "entry" point and foot was the most frequent "exit" point. Admissions increased from 5 in 6 years, 1994 to 2000, to 15 in 3 years, 2000 through 2002, to 22 cases in 3 years, 2003 through 2005. Spring and fall, and months May and October were times of highest incidence. The treatment was complex, difficult, long, and

costly. Thirty-eight patients (90.4%) required operations, including early excision and graft (34 patients), and amputation (14 patients). Two patients had an inhalation injury that necessitated a tracheostomy and four victims had additional skin and soft-tissue injury. Thirty-two patients had a record of unconsciousness immediately after the electrical injury and atrial premature beats were a frequently found arrhythmia. A significant (P <.01) increase in serum creatine kinase MB fraction was found in 11 patients. The mean time in hospital of the survivors was 28.97 days. Acute renal failure was the commonest complication and one patient died of sepsis with giving a mortality rate of 2.4%. Caution and preventive measures are warranted while fishing near electrical wires, and improvements in electrical burn treatment are needed. /ALTERNATIVE and IN VITRO TESTS/ ... The toxicity of single-walled carbon nanotubes (SWCNT) was assessed in human keratinocyte cells. The results show increased oxidative stress and inhibition of cell proliferation in response to treatment of keratinocytes with SWCNT particles. In addition, the signaling mechanism in keratinocytes upon exposure to SWCNT particles was investigated. Results from the study suggest that SWCNT particles activate NF-kappaB in a dose-dependent manner in human keratinocytes. Further, the mechanism of activation of NF-kappaB was due to the activation of stress-related kinases by SWCNT particles in keratinocytes.
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: /OTHER TOXICITY INFORMATION/ EXPTL INTRAVENOUS INJECTION OF PURE CARBON SUSPENSIONS IN RABBITS PRODUCES NO OCULAR INFLAMMATION, ALTHOUGH CARBON PARTICLES ARE DEPOSITED WITHIN THE BLOOD VESSELS.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: /EPIDEMIOLOGY STUDIES/ /The objective was/ to investigate the risk of cancer and non-neoplastic respiratory diseases among workers who manufacture carbon electrodes, as this industry entails exposure to mixtures of polycyclic aromatic hydrocarbons. ... A historical cohort study was carried out of 1006 male workers employed for at least 1 year between 1945 and 1971 in a carbon (graphite) electrode production plant in central Italy, who were followed up for mortality between 1955 and 1996. The ratio of observed to expected deaths (standardised mortality ratios, SMRs) was computed from both national and (for the period 1964-96) regional age and period specific mortalities. A multivariate Poisson regression analysis was performed to investigate the relative risk (RR) of death according to duration of employment and time since first employment in the factory. ... A total of 424 workers had died, 538 were still alive, and 44 were lost to follow up. Mortalities from all causes, all cancers, and respiratory tract cancer were in line with the regional figure. An excess was found over the expected deaths from skin cancer including melanoma (SMR 3.16, 95% confidence interval (95% CI) 0.65 to 9.23) and from non-neoplastic respiratory diseases (SMR 1.58, 95% CI 1.16 to 2.11). Poisson regression analysis including age as a covariate showed an increased risk of dying from gastric cancer with increasing duration of employment, and an increase in the RR of dying from lung cancer and from non-neoplastic respiratory diseases with increasing time since first employment, although the linear trend was not significant. ... This study supports previous findings that working in the carbon electrode manufacturing industry may not increase the risk of dying from respiratory cancer.
- Reproductive toxicity: No data available.
- STOT-single exposure: /BIRDS and MAMMALS/ ... Several non-target organisms, including burrowing owls, may inhabit the burrows of target pests ... . Due to the potential risk to non-target organisms, the EPA is currently developing more extensive labeling regarding timing of application and observation of signs indicating the presence or absence of target and non-target organisms. These instructions will be explicit concerning actions users must take before applying the product.
- STOT-repeated exposure: No data available.
- Aspiration hazard: No data available.

Likely routes of exposure

- /SIGNS AND SYMPTOMS/ ... INHALATION OF CARBON DUST ... CAN IMMEDIATELY GIVE RISE TO AN INCREASED MUCOCILIARY TRANSPORT ... & AIRWAY RESISTANCE MEDIATED BY THE VAGUS. /CARBON DUST/

Symptoms related to the physical, chemical and toxicological characteristics
- /SIGNS AND SYMPTOMS/ ... INHALATION OF CARBON DUST ... CAN IMMEDIATELY GIVE RISE TO AN INCREASED MUCOCILIARY TRANSPORT ... & AIRWAY RESISTANCE MEDIATED BY THE VAGUS. /CARBON DUST/

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
Not available.

12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
No data available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/container in accordance with local/regional/national/international regulations. Avoid generating dust during disposal. Do not discharge to drains.
Contaminated packaging: Dispose of as unused product or according to local regulations.
Waste codes: Not available.

SECTION 14: Transport information

SECTION 14: Transport information

14.1 UN number
Not available.

14.2 UN proper shipping name

Not available.

14.3 Transport hazard class(es)
Not available.

14.4 Packing group
Not available.

14.5 Environmental hazards
Not available.

14.6 Special precautions for user
Avoid dust release during transport. Keep container tightly closed.

14.7 Maritime transport in bulk according to IMO instruments
Not available.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Not available.

15.2 Chemical safety assessment
No data available.

SECTION 16: Other information

SECTION 16: Other information

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CAS No.: 7782-42-5
Catalog No.: CS-CZ-00001
Synonyms: Graphene nanoplatelets
Supplier: Clearsynth Labs Ltd., Mumbai, India
Emergency phone: +91-22-245045900

Disclaimer: The information provided is believed to be accurate based on available data, but no warranty is expressed or implied. Users must determine suitability for their particular application and comply with all applicable laws and regulations.
Revision date: Not available.
Revision number: Not available.

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