# Safety data sheet
## according to 1907/2006/EC, Article 31

Printing date 27.01.2017 Version number 14 Revision: 27.01.2017

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

· **1.1 Product identifier**

· **Trade name: Natural graphite (carbon)**
· **CAS Number:**
999999-99-4
· **EC number:**
310-127-6
· **Registration number**
REACH: According to Regulation 1907/2006, Annex V, Art. 3(40); Natural Graphite (CAS-Nr. 999999-99-4) is exempt from registration.
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the mixture**
Electrically and thermally conductive additive, lubricant, pencil lead, fillers,
Friction modifier, carbon carrier, fireproof additive.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Graphit Kropfmühl GmbH
Langheinrichstraße 1
94051 Hauzenberg

· **Further information obtainable from:**
Phon: +49 (0) 8586 609 - 0
Fax: + 49 (0) 8586 609 - 114
eMail: info@gk-graphite.com
· **1.4 Emergency telephone number:**
Toxicological information and poison emergency number in Germany:
Tel: +49 (0) 8919240
Fax: +49 (0) 8941402467

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## SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP). This product does not meet the classification and labelling criteria given in the Dangerous Substances Directive 67/548/EC (DSD)
· **Classification according to Regulation (EC) No 1272/2008**
The substance is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.


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**Trade name: Natural graphite (carbon)**

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## SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
999999-99-4 Natural graphite (carbon)
· **Identification number(s)**
· **EC number:** 310-127-6
· **Additional information:** Not applicable. The product is not a mixture.

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## SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** In case of persistent adverse effects, consult a doctor. Change contaminated clothing.
· **After inhalation:** Remove affected person from danger area. Ensure supply of fresh air.
· **After skin contact:** When in contact with skin, clean with soap and water.
· **After eye contact:** Remove contact lenses. Separate eyelids, wash the eyes thoroughly with water (15 min.).
· **After swallowing:**
Rinse out mouth and give plenty of water to drink. Never give anything by mouth to an unconscious person.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
Mineral dust. Decontamination,symptomatic treatment. Non toxic, no known irritating or allergic reactions. Mechanical skin or eye irritation may occur.

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## SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Foam; Carbon dioxide; Extinguishing powder; Water spray jet; Sand
· **For safety reasons unsuitable extinguishing agents:** High power water jet
· **5.2 Special hazards arising from the substance or mixture**
In the event of fire, the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2)
· **5.3 Advice for firefighters**
· **Protective equipment:** Use self-contained breathing apparatus. Wear protective clothing.

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## SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Refer to protective measures listed in sections 7 and 8. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Avoid dust formation. High risk of slipping due to leakage/spillage of product.
Personal protective equipment (PPE) - see Section 8. In case of emergency, use of personal protective equipment [DIN EN 469, EN 12021].
· **6.2 Environmental precautions:** Do not discharge into the drains/surface waters/groundwater.
· **6.3 Methods and material for containment and cleaning up:**
Remove by simple sweeping up or by vacuum cleaner.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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***Trade name: Natural graphite (carbon)***

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*See Section 13 for disposal information.*

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## SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
*Advice on safe handling: Provide good ventilation of working area (local exhaust ventilation, if necessary). If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn. General protective and hygiene measures: Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Avoid contact with eyes and skin. Remove contaminated clothing. Wash hands before breaks and after work. Do not inhale dust.*
*Advice on protection against fire and explosion: Under certain circumstances fine dust clouds may form explosive mixtures with air. Take precautionary measures against static charges. Keep away from sources of heat and ignition. Dust should be aspirated immediately on-the-spot.*

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
*Keep container tightly closed and dry. Packing materials are to be proofed on resistance before use.*
· **Information about storage in one common storage facility:**
*Cumulative storage with substances as follows is prohibited:*
*Medicines, food and feed.*
*Strongly oxidizing substances.*
*Infectious, radioactive, explosive substances.*
· **Further information about storage conditions:** *Store in a dry place. Store in a closed container*
· **Storage class:** *Storage classification 11 (flammable solids).*
· **7.3 Specific end use(s)** *No further relevant information available.*

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## SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

| · **Ingredients with limit values that require monitoring at the workplace:** |
|---|
| **Natural graphite (carbon)** |
| *List of approved workplace exposure limits (WELs) / EH40 total inhalable dust 10 mg/m3 E/ 1.25 mg/m A* |
| *List of approved workplace exposure limits (WELs) / EH40 respirable dust -4 mg/ m3* |

· **DNELs**
*The DNEL value (inhalation) is applicable for respirable fractions of graphite dust that can reach the alveolar regions of the lung.*
*Value (consumer) Oral: Long term (chronic) systemic 813 mg / kg / day*
*Values (worker) inhalative: Long term (chronic) local 1.2 mg/m³*
*Consumer inhalative: Long term (chronic) local 0.3 mg/m³*

· **8.2 Exposure controls**
*Exposition monitoring:*
*Appropriate technical measures; removal of dust by suction directly at the place of origination.*

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**Trade name: Natural graphite (carbon)**

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· **Personal protective equipment:**
· **General protective and hygienic measures:**
Avoid inhalation of dusts. If possible, use in closed apparatus. Care for very good ventilation of the work area, remove vacuum dusts at the place of origin.
· **Respiratory protection:**
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, use appropriate measures for breathing protection. Use half-or full-face dust mask with filter P 1 on concentrations above limitations.
Wear time limits according to BGR / GUV-R 190 must be observed
· **Protection of hands:**
Protection gloves are generally not required. As sufficient protection for the product,
wear suitable protective gloves according to (DIN EN 374). Gloves have to be tested on suitability before use (i.e. mechanical resistance, product compatibility and
antistatic properties). Follow the instructions of the
Manufacturer with regard to the use, storage, care and replacement of protective gloves.
Protective gloves must be replaced immediately if physical damage or wear is visible. Make working arrangements so that gloves do not have to be worn all the time.

If no protective gloves are worn, apply water-insoluble skin protection before start of work and apply to the clean skin after each break. Clean skin before breaks and work with water and soap. After cleansing, use a greasy skin care product.
· **Material of gloves**
The selection of suitable gloves deppends not only on the material, but also from other quality characteristics and varies on manufacturer to manufacturer.
· **Penetration time of glove material**
The exact breakthrough time must be observed and adhered to by the protective glove manufacturer
· **Eye protection:** Safety glasses with side protection shield (EN 166)
· **Body protection:** Workwear
· **Limitation and supervision of exposure into the environment** No data available

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## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · **9.1 Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Appearance:** | |
| **Form:** | Powder |
| **Colour:** | Grey to black |
| · **Odour:** | Odourless |
| · **Odour threshold:** | Not determined. |
| · **pH-value:** | acidic-neutral (DIN ISO787-9) |
| · **Change in condition** | |
| **Melting point/freezing point:** | value> 3000 °C (OECD102 (with Inert gas)) |
| **Initial boiling point and boiling range:** | 3.750 °C (Sublimation) |
| · **Flash point:** | not applicable |
| · **Flammability (solid, gas):** | Not determined |
| · **Ignition temperature:** | > 500 °C |

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**Trade name: Natural graphite (carbon)**

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| | |
|---|---|
| · **Auto-ignition temperature:** | Inorganic substance without oxygen or halogen atoms, not self-igniting up to 300 °C. |
| · **Explosive properties:** | In principle, graphite fine dust can be generated under certain conditions. The dust explosion parameters of natural graphites are dependent on the degree of purity as well as the particle size distribution of the graphite powder. The experimental determination of dust explosion parameters is carried out in a closed, cylindrical 1m3 vessel in accordance with VDI 2263 referring to DIN EN 14034-3.<br>Samples with a certain fineness and a minimum carbon content conld be brought to explosion with a test ignition energy of 2-10 KJ. Classification: dust explosion class ST 1. |
| · **Explosion limits:** | |
| **Lower:** | 125-250 g/m3 (DIN EN 14034-3) |
| **Upper:** | Not determined |
| · **Vapour pressure:** | not applicable |
| · **Density at 20 °C:** | 2.26 g/cm³ (Din 51901) |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not determined. |
| · **Evaporation rate** | Not applicable. |
| · **Solubility in / Miscibility with water at 20 °C:** | <0.001 g/l |
| · **Viscosity:** | |
| **Dynamic:** | not applicable |
| · **9.2 Other information** | No further relevant information available. |

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## SECTION 10: Stability and reactivity

· **10.1 Reactivity** Not reactive on compliance with indicated conditions of uses and storage
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions**
Combustion hazards resp. formation of combustible gases or fumes with chlorine trifluoride or fluorine.
· **10.4 Conditions to avoid** Very high temperatures, humidity
· **10.5 Incompatible materials:** Strong oxidizing agents.
· **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide during heating on air.

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## SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

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| · **LD/LC50 values relevant for classification:** | | |
|---|---|---|
| **999999-99-4 Naturgraphit** | | |
| Oral | LD 50 (static) | > 2000 mg/kg (rat) (OECD 423) |
| Inhalative | LC 50 (static) | > 2000 mg/m3 4h (rat) (OECD 403) |

· **Primary irritant effect:**
· **Skin corrosion/irritation**
rabbit Method OECD 404 ( Based on available data, the classification criteria are not met.) Negative.
· **Serious eye damage/irritation**
rabbit Method OECD 405 ( Based on available data, the classification criteria are not met.) Negative.
· **Respiratory or skin sensitisation** No sensibilizing of mice during local lymph nodes test (OECD 429).
· **Subacute to chronic toxicity:**
NOAEL oral 813 mg/kg rat Method OECD 422 (Based on available data, the classification criteria are not met.) Negative.
NOAEL inhalative >2000 mg/cm3 4h rat Method OECD 412 (Based on available data, the classification criteria are not met.) Negative.
· **Repeated dose toxicity**
Natural graphite with quartz content can lead to pulmonary diseases when inhaled.
Avoid dust formation.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity**
Mutation Test : Method OECD 471 (negative.)
Mammalian cell gene mutation assay Method OECD 476 (negative.)
Mammalian chromosome aberration test Method OECD 473 (negative.)
Based on available data, the classification criteria are not met.
· **Carcinogenicity**
Classification of the U.S. National Institute of Health (NIH) in the National Toxicology Program (NTP) for natural graphite with quartz content: suspicion of carcinogenic effect on humans.
· **Reproductive toxicity**
NOAEL oral 813 mg/kg Rat Method OECD 422
NOAEL: No Observed Adverse Effect Level
No evidence of teratogenicity or embryotoxicity has been monitored under the conditions of studies with rats.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

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## SECTION 12: Ecological information

· **12.1 Toxicity**

| · **Aquatic toxicity:** | |
|---|---|
| EC50 crawfish (static) | >100 mg/l 48h (Dap) (OECD 202) |
| IC50 alga (static) | >100 mg/l 72h (Pse) (OECD 201) |
| LC50 fish (static) | >100 mg/l 96h (Dan) (OECD 203) |

· **12.2 Persistence and degradability**
Since the substance is inorganic, a study to determine the biodegradation is not required under Reach Regulation EC/1907/2006.
· **12.3 Bioaccumulative potential** No further relevant information available.

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***Trade name: Natural graphite (carbon)***

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· ***12.4 Mobility in soil*** *No further relevant information available.*
· ***12.5 Results of PBT and vPvB assessment***
*Product does not contain any PBT or vPvB substances according to REACH Annex III criteria.*
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*
· ***12.6 Other adverse effects*** *Macro crystalline natural graphite is a chemical inert and not polluting material.*

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## SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation***
*Residues and wastes maybe recycled, contaminated wastes can be disposed of in an incineration site.*
*European waste inventory:*
*01 04 99*

· ***Uncleaned packaging:***
· ***Recommendation:*** *Disposal must be made according to official regulations.*

## SECTION 14: Transport information

| | |
|---|---|
| · ***14.1 UN-Number*** | |
| · ***ADR, ADN, IMDG, IATA*** | *Void* |
| · ***14.2 UN proper shipping name*** | |
| · ***ADR, ADN, IMDG, IATA*** | *Void* |
| · ***14.3 Transport hazard class(es)*** | |
| · ***ADR, ADN, IMDG, IATA*** | |
| · ***Class*** | *Void* |
| · ***14.4 Packing group*** | |
| · ***ADR, IMDG, IATA*** | *Void* |
| · ***14.5 Environmental hazards:*** | *Not applicable.* |
| · ***14.6 Special precautions for user*** | *Not applicable.* |
| · ***14.7 Transport in bulk according to Annex II of Marpol and the IBC Code*** | *Not applicable.* |
| · ***UN "Model Regulation":*** | *Void* |

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## SECTION 15: Regulatory information

· ***15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture***
· ***Labelling according to Regulation (EC) No 1272/2008***
*The product is not due to labelling according to UK regulations.*

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** *Substance is not listed.*

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· **National regulations:**
· **Additional classification according to Decree on Hazardous Materials, Annex II:**
Total dust, including fine dust: The dust-like emissions contained in the exhaust gas may not be exceeded
Do not exceed the following values:
Mass flow: 0.20 kg / h or:
Mass concentration: 20 mg / m3.
Even if a mass flow of 0.20 kg / h is maintained or exceeded,
Mass concentration 0.15 g / m3 should not be exceeded
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Contact:**
Graphit Kropfmühl GmbH
Langheinrichstraße 1
94051 Hauzenberg
Phon: +49 (0) 8586 609-0
Fax: +49 (0) 8586 609 114
eMail: info@gk-graphite.com
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
· *** Data compared to the previous version altered.**