

MATERIAL SAFETY DATA SHEET

according to 91/155/EU

page 1

Date printed: 04.03.1994

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1. MATERIAL / PREPARATION AND COMPANY DESIGNATION

Data on product, commercial name

EXPANDABLE GRAPHITE

includes all types of expandable graphite which occupy a larger volume under the influence of heat

Data on manufacturer / supplier

Manufacturer / supplier

GS Naturgraphit GmbH

Street

Winner Str. 9

National ident / postcode

D-91227 Leinburg

Country

Fed. Rep. of Germany

Telephone

0049 9187 5278

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Emergency number

0049 9187 5278

2. COMPOSITION / DATA ON CONSTITUENTS

Expandable graphite is made of flake graphite by application of an acid treatment. It mainly consists of crystallised carbon, of small admixtures of natural rock constituents, and of remainders of acid treatment.

3. POSSIBLE DANGERS

Health

slight danger in case of long-term contact and high dust concentrations

Inflammability

distinguishes when source of heat is removed

Chemical reactions

not applicable

4. FIRST AID MEASURES

Respiration

remove from accident site

Eyes

wash with cold water

Skin

wash with water and soap

Stomach pumping

not necessary

5. FIREFIGHTING MEASURES

Suitable extinguisher, foam extinguisher

no restrictions

Extinguishers which are unsuitable for safety reasons

none

6. MEASURES TO TAKE IN CASE OF UNINTENTIONAL RELEASE

Persons-related protective measures

see **4. FIRST AID MEASURES**

Graphite acts as a lubricant, therefore carefully sweep and vacuum the floor, in order to avoid the danger of accidents through slipping on the floor.

Environmental protection measures

not necessary

Cleaning procedure

normally sweeping and vacuuming

Use commercially available cleaning agents for wiping and washing

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page 2

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7. HANDLING AND STORAGE

Handling avoid a build-up of dust as far as possible

Storage warehouse and container requirements,
 store as dry as possible

Protective measures to take against electrical equipment:

Graphite conducts electricity, therefore, keep as far away as possible from electrical equipment and conductors.

8. EXPOSURE LIMITATION AND PERSONAL PROTECTIE EQUIPMENT

Avoid build-up of dust vacuum as often as reasonable

Personal protective equipment

Respiratory equipment use commercially available dust masks

Protection of hands issue commercially available cotton or other protective gloves

Protection of eyes in case of sensitivity distribute safety goggles

Bodily protection protect the body from contamination by one-piece dust-proof overalls.

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

Appearance

Form flakes and powders

Colour silvery – grey to black

Odour normally none

Change in state

Boiling point / boiling range the melting and vapourisation temperature in the absence of oxygen is 3600 °C

Flash point forms no flames, glows only

Combustibility not applicable

Ignition temperature about 600 ° C

Self-combustibility not applicable

Danger of explosion none

Lower explosion threshold not applicable

Upper explosion threshold not applicable

Fire-causing characteristics none, it only glows

Steam pressure not applicable

Relative density about 2.1 – 2.3 g/cm³

Bulk density about 0.2 to 1.0 g/cm³

Solubility in water not applicable

pH value 3 – 12, according to customers' requirements

Distribution coefficient n-octanol/water none

Other data none

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10. STABILITY AND REACTIVITY

| | |
|----------------------------------|---|
| Conditions to be avoided | fire and heat of above 150 ° C (activation temperature) |
| Substances to be avoided | strongly oxidising substances such as fluorine, peroxide etc. |
| Dangerous decomposition products | carbon dioxide, carbon monoxide, some sulphur dioxide, and under certain circumstances, rests of the acid treatment |

11. TOXICOLOGY DATA

Expandable graphite is harmless in toxicological terms

12. ECOLOGY DATA

Expandable graphite is an inert carbon product and does not harm the environment

13. DIRECTIONS REGARDING DISPOSAL

The local regulations are to be heeded. Since expandable graphite is a carbon product and it does not harm the environment there is normally no objection to it being disposed of in a tip.

14. DATA ON TRANSPORT

| | |
|---|-------------------------|
| Land transport ADR/ RID and GGVS / GGVE | no specific regulations |
| Transport by river ADN / ADR | no specific regulations |

15. STIPULATIONS

| | |
|----------|------|
| R - sets | none |
| S - sets | none |

16. OTHER INFORMATION

This Material Safety Data Sheet is issued according to our best and newest knowledge but the given information should not be considered as a specification or other binding data.