

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

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

- **1.1 Product identifier**
- **Trade name: Graphite Aerosol**
- **Article number:** AG16058
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:** Conductive spray
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier.**
Agar Scientific Ltd
Parsonage Lane
Stansted CM24 8GF
United Kingdom
sales@agarscientific.com
Tel: +44 (0) 1279 813 519
- **Further information obtainable from:** Technical Support
- **1.4 Emergency telephone number:** 24 hours: +44 (0)1856 407333

SECTION 2: Hazards identification

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



Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger
- **Hazard-determining components of labelling:**
heptane
propan-2-ol
methylcyclohexane
octane
- **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
- **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: Graphite Aerosol

(Contd. of page 1)

- P102 Keep out of reach of children.
- P103 Read carefully and follow all instructions.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P211 Do not spray on an open flame or other ignition source.
- P251 Do not pierce or burn, even after use.
- P280 Wear protective gloves / eye protection / face protection.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3 Other hazards
Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

- **Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|-------------------------------------|--|--------|
| CAS: 142-82-5 EINECS: 205-563-8 | heptane ⚠ Flam. Liq. 2, H225; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336 | 30-60% |
| CAS: 67-63-0 EINECS: 200-661-7 | propan-2-ol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336 | 10-30% |
| CAS: 74-98-6 EINECS: 200-827-9 | propane ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280 | 10-30% |
| CAS: 106-97-8 EINECS: 203-448-7 | butane, pure ⚠ Flam. Gas 1A, H220; ⚠ Acute Tox. 3, H331; Press. Gas (Comp.), H280 | 1-5% |
| CAS: 108-87-2 EINECS: 203-624-3 | methylcyclohexane ⚠ Flam. Liq. 2, H225; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336 | 1-5% |
| CAS: 111-65-9 EINECS: 203-892-1 | octane ⚠ Flam. Liq. 2, H225; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336 | 1-5% |
| CAS: 7782-42-5 EINECS: 231-955-3 | Graphite ⚠ Skin Irrit. 2, H315 | 1-5% |

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** No adverse effects are anticipated from inhalation.
- **After skin contact:** Wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: **Graphite Aerosol**

(Contd. of page 2)

- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Water fog - dried resin only.
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective gloves and glasses.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Do not spray onto a naked flame or any incandescent material.
The dried resin is combustible, similar to wood. Burning dry resin emits dense, black smoke. As latex, material is not combustible.
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Observe official regulations on storing packagings with pressurised containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.

· **Ingredients with limit values that require monitoring at the workplace:**

142-82-5 heptane

| | |
|-----|---|
| WEL | Long-term value: 2085 mg/m ³ , 500 ppm |
|-----|---|

67-63-0 propan-2-ol

| | |
|-----|--|
| WEL | Short-term value: 1250 mg/m ³ , 500 ppm |
| | Long-term value: 999 mg/m ³ , 400 ppm |

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: Graphite Aerosol

(Contd. of page 3)

106-97-8 butane, pure

| | |
|-----|--|
| WEL | Short-term value: 1810 mg/m ³ , 750 ppm |
| | Long-term value: 1450 mg/m ³ , 600 ppm |
| | Carc (if more than 0.1% of buta-1.3-diene) |

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Aerosol

Colour: Black

· **Odour:** Specific type

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: <-91 °C

Initial boiling point and boiling range: 98 °C

· **Flash point:** -4 °C

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: Graphite Aerosol

(Contd. of page 4)

| | |
|--|---|
| · Flammability (solid, gas): | Not applicable. |
| · Decomposition temperature: | Not determined. |
| · Auto-ignition temperature: | Product is not selfigniting. |
| · Explosive properties: | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
| · Explosion limits: | |
| Lower: | 1.1 Vol % |
| Upper: | 12 Vol % |
| · Vapour pressure at 20 °C: | 8,300 hPa |
| · Density at 20 °C: | 0.22603-1.54229 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with water: | Fully miscible. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 53-135 % |
| VOC (EC) | 53-135 % |
| Solids content: | 0.0 % |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

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

· **LD/LC50 values relevant for classification:**

108-87-2 methylcyclohexane

| | | |
|------|------|---------------------|
| Oral | LD50 | 2,250 mg/kg (mouse) |
|------|------|---------------------|

- **Specific symptoms in biological assay:**
- **Skin corrosion/irritation**
Causes skin irritation.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: **Graphite Aerosol**

(Contd. of page 5)

- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **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.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | UN1950 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA | 1950 AEROSOLS AEROSOLS AEROSOLS, non-flammable |

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: **Graphite Aerosol**

(Contd. of page 6)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 2.5A Gases.
 · **Label** 2.1

· **IMDG, IATA**



· **Class** 2.1
 · **Label** 2.1

· **14.4 Packing group**

· **ADR, IMDG, IATA** Void

· **14.5 Environmental hazards:** Not applicable.

· **14.6 Special precautions for user**

Warning: Gases.

· **Hazard identification number (Kemler code):** -

· **EMS Number:** F-D,S-U

· **Stowage Code** SW1 Protected from sources of heat.
 SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
 SG69 For AEROSOLS with a maximum capacity of 1 litre:

· **Segregation Code**

Segregation as for class 9. Stow "separated from" class 1 except for division 1.4.
 For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2.
 For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E0
 Not permitted as Excepted Quantity
 · **Transport category** 3
 · **Tunnel restriction code** E

· **IMDG**

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E0
 Not permitted as Excepted Quantity

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: **Graphite Aerosol**

(Contd. of page 7)

· **UN "Model Regulation":** UN 1950 AEROSOLS, 2.1

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P3a FLAMMABLE AEROSOLS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 150 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge and should assist the user with the safe handling of this material when properly applied. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H220 Extremely flammable gas.
- H225 Highly flammable liquid and vapour.
- H280 Contains gas under pressure; may explode if heated.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H336 May cause drowsiness or dizziness.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.

· **Department issuing SDS:** Sales department

· **Contact:**

sales@agarscientific.com
Tel: +44 (0) 1279 813 519

· **Abbreviations and acronyms:**

- ADR: Accord relatif au transport international 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
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Gas 1A: Flammable gases – Category 1A
- Aerosol 1: Aerosols – Category 1
- Press. Gas (Comp.): Gases under pressure – Compressed gas
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 3: Acute toxicity – Category 3
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- Asp. Tox. 1: Aspiration hazard – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

(Contd. on page 9)

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

Date Printed 06.01.2022

Version number 1

Revision Date 06.01.2022

Trade name: **Graphite Aerosol**

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

(Contd. of page 8)

· * **Data compared to the previous version altered.**

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