

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

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

- **1.1 Product identifier**
- **Trade name: Ink pen for SEM**
- **Article number:** AGG3344
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
 Fine point writing pen which leaves a mark that can be read in the electron beam of the SEM.
- **Application of the substance / the preparation:**
 It can be used for marking or identifying an object under examination.
- **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**



flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



STOT SE 3 H336 May cause drowsiness or dizziness.

- **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** Warning
- **Hazard-determining components of labelling:**
 1-methoxy-2-propanol
- **Hazard statements**
 H226 Flammable liquid and vapour.
 H336 May cause drowsiness or dizziness.
- **Precautionary statements**
 P101 If medical advice is needed, have product container or label at hand.
 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.
 P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

Trade name: Ink pen for SEM

(Contd. of page 1)

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:

- Inhalation: Intentional exposure to ink vapours may cause respiratory irritation.
- Ingestion: May cause upset stomach.
- Skin contact: Ink contact with skin may cause irritation, swelling or redness. It is not expected to cause an allergic skin reaction.
- Eye contact: Ink contact with eye may be mildly irritating.

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: 107-98-2	1-methoxy-2-propanol	81.0%
EINECS: 203-539-1	⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	

- **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:** Remove subject to ventilated fresh air. Consult physician if necessary.
- **After skin contact:**
Immediately rinse with water.
Wash the affected area under tepid running water using a mild soap. Seek medical attention if irritation continues.
- **After eye contact:**
Gently rinse affected eyes with clean water for at least 15 minutes. Seek medical attention if irritation continues.
- **After swallowing:** Seek medical attention.
- **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**
Local contamination: In case of skin or eye contamination treat as under First Aid Measures.
Systemic poisoning: There is no specific antidote. Treat symptoms.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing agents:** Water spray, foam, dry chemical powder, carbon dioxide.

5.2 Special hazards arising from the substance or mixture

 CO₂, CO, NO_x and SO_x are produced after combustion.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

Trade name: Ink pen for SEM

(Contd. of page 2)

- **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.
Use proper ventilation. Use eye and skin protection.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb spillage with material (cloth or paper), then place in a chemical waste containers.
- **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**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Avoid rough handling or dropping.
- **Information about fire - and explosion protection:**
The dried resin is combustible, similar to wood. Burning dry resin emits dense, black smoke. As latex, material is not combustible.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a dry, cool, well ventilated location, away from possible sources of ignition.
- **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)** Do not use for other purposes than writing/markings.

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:**

107-98-2 1-methoxy-2-propanol

WEL	Short-term value: 560 mg/m ³ , 150 ppm
	Long-term value: 375 mg/m ³ , 100 ppm
Sk	

- **Additional information:**
The lists valid during the making were used as basis.
Chromium (III) compound: 0.5mg/m³.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

Trade name: Ink pen for SEM

(Contd. of page 3)

- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Not required in normal use.
- **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
Not required in normal use.

- **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

Not required in normal use.

- **Body protection:** Not required in normal use.

SECTION 9: Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Colour:	Black
Odour:	Recognisable
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	120 °C

- **Flash point:** 32 °C

- **Flammability (solid, gas):** Not applicable.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

Trade name: Ink pen for SEM

(Contd. of page 4)

· 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:	1.9 %
Upper:	13.1 °C
· Vapour pressure at 20 °C:	12 hPa 1.2 kPa
· Density:	Not determined.
· Relative density	0.95-1.02
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Insoluble
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	4-6 mPa s
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	81.0 %
VOC (EC)	81.00 %
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**
Fire or intense heat may cause violent rupture of packages.
Take precautionary measures against static discharges.
- **10.5 Incompatible materials:** Strong oxidising agents and reducing agents.
- **10.6 Hazardous decomposition products:**
Heating can release ignitable vapours.
Burning produces obnoxious and toxic fumes, carbon oxides.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Specific symptoms in biological assay:**
- **Skin corrosion/irritation** 1-methoxy-2-propanol (107-98-2): 500mg/hr; Slight (rabbit skin)
- **Serious eye damage/irritation** 1-methoxy-2-propanol (107-98-2): 500mg/24hr; Slight (rabbit eye)
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

Trade name: Ink pen for SEM

(Contd. of page 5)

- **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**
May cause drowsiness or dizziness.
- **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 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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.
Follow all regulations in your country.
- **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 	<p style="text-align: right;">UN1993</p>
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA 	<p style="text-align: right;">1993 FLAMMABLE LIQUID, N.O.S. solution FLAMMABLE LIQUID, N.O.S. solution</p>
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG, IATA 	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	<p style="text-align: right;">3 Flammable liquids. 3</p>

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

Trade name: Ink pen for SEM

(Contd. of page 6)

· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 30 F-E, <u>S</u> -E A
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	3 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. SOLUTION, 3, III

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** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 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**
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
- **Department issuing SDS:** Sales department

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.02.2022

Version number 1

Revision Date 18.02.2022

Trade name: Ink pen for SEM*(Contd. of page 7)***· 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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

GB