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

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

· **1.1 Product identifier**

· **Trade name: Liquid blocker pen**

· **Article number:** AGL4197M/S

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
PAP pens are useful in immunostaining applications that use small amounts of valuable antiserum. These pens create a water repellent barrier around specimens or sections, retaining antiserum within the defined area and limiting the amount of antibody required.

· **Application of the substance / the preparation:**
Multiple sections, separated by individual circular barriers, may be applied to the same slide for easy comparison. The PAP pen liquid is formulated to be insoluble in alcohol and acetone, and stable for long time periods. It can be removed by xylene if desired after staining is completed. Slides must be clean before the barrier is applied and can be coated with egg albumen, glycerine or poly-L-lysine if required.
In order to use this Pen, hold upright and push the tip with your thumb a couple of times to release the air in the Pen. Turn the Pen upside down, put the tip on theglass slide, and push down a couple of times until the tip gets moderately wet. Do not push the tip too hardnor too many times or the liquid will explode and you will ruin the tip. Once the tip gets moderately wet, it isready to use.

· **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**


health hazard

Muta. 1B	H340	May cause genetic defects.
Carc. 1A	H350	May cause cancer.
Repr. 1B	H360FD	May damage fertility. May damage the unborn child.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
STOT SE 3	H335-H336	May cause respiratory irritation. 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.

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· **Hazard pictograms**

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
Abzol (1-bromopropane)
Butadiene rubber
Ligroine

· **Hazard statements**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.

· **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.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing 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 present and easy to do. Continue rinsing.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**
Can become highly flammable in use.

· **Hazard description:**
Appearance: Liquid, dark gray.
Immediate effects: This pen contains industrial chemicals and liquid in pen extremely irritating to eyes.
Primary Routes of entry: Skin, eye, inhalation and ingestion. Not likely at Conditions of Intended or normal Use (C.I.U.).
Signs and Symptoms of Overexposure: ND
Eyes: Liquid extremely irritating to eyes (C.I.U.).
Skin: Irritating to Skin (C.I.U.).
Ingestion: Call a physician. (C.I.U.).
Inhalation: Causes mucus membrane and respiratory tract irritation. (C.I.U.).
Chronic Exposure: (C.I.U.)
Chemical Listed As Carcinogen Or Potential Carcinogen: (C.I.U.)

· **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.

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· **Dangerous components:**		
CAS: 106-94-5 EINECS: 203-445-0	Abzol (1-bromopropane) Flam. Liq. 2, H225; Repr. 1B, H360FD; STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335-H336	60.5%
CAS: 106-99-0 EINECS: 203-450-8	Butadiene rubber Flam. Gas 1A, H220; Acute Tox. 2, H330; Muta. 1B, H340; Carc. 1A, H350; Press. Gas (Comp.), H280	30.0%
CAS: 8032-32-4 EINECS: 232-453-7	Ligroine Flam. Liq. 2, H225; Muta. 1B, H340; Carc. 1B, H350; Asp. Tox. 1, H304	9.5%

· **SVHC**	
106-94-5	Abzol (1-bromopropane)

· **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.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
No adverse effects are anticipated from inhalation.
Remove to fresh air. If breathing is difficult call physician. (C.I.U.) Ingestion: Call a physician. (C.I.U.)
· **After skin contact:**
Wash with water and soap and rinse thoroughly.
In case of contact wash thoroughly with soap and water and flush with plenty of water. (C.I.U.)
· **After eye contact:**
Rinse opened eye under running water. If symptoms persist, consult a doctor.
Liquid extremely irritating to eye, flush with plenty of water and see medical attention. (C.I.U.)
· **After swallowing:** If symptoms persist consult doctor.
· **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**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Carbon Dioxide
· **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **5.3 Advice for firefighters**
· **Protective equipment:** Positive pressure self-contained breathing apparatus.
· **Additional information**
Flash Point: 71ºC
Flammable Limits: Lower Limit: 4% by Volume. Upper Limit: 8% by Volume.
Auto-ignition point: 490ºC

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Wear gloves.

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· **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Dispose of waste according to Federal, State and Local Regulations.
· **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.
(C.I.U.) Neutralizing Media: Alcohol.
· **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.
Open and handle receptacle with care.
Prevent formation of aerosols.
Keep from heat and open flame, strong oxidants and small children. Do not open back plug of pen.
· **Information about fire - and explosion protection:**
Extinguishing media: Water fog - dried resin only.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Storage temperature: Room temperature.
· **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:**
Ventilation required: Use in well ventilated area and keep from heat and open flame.

· **Ingredients with limit values that require monitoring at the workplace:**	
106-99-0 Butadiene rubber	
WEL	Long-term value: 22 mg/m³, 10 ppm Carc

· **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.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· **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.
Use in well ventilated area.

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· **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

Wear safety glasses and avoid contact with eyes.

· **Body protection:** Avoid contact with skin.

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Colour:	Green
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value at 20 °C:**	7
· **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	71 °C
· **Flash point:**	71 °C
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	490 ºC
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	4 %
Upper:	8 %
· **Vapour pressure:**	Not determined.
· **Density:**	Not determined.

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· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Not miscible or difficult to mix.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic at 20 °C:	40 mPas
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	9.5 %
VOC (EC)	9.50 %
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** Stable at Conditions of Intended or normal Use.
· **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**
Keep from heat and open flame, strong oxidants and small children. Do not open back plug of pen.
· **10.5 Incompatible materials:** Strong oxidants.
· **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:**		
106-94-5 Abzol (1-bromopropane)		
Inhalative	LC50/4 h	253 mg/l (rat)
106-99-0 Butadiene rubber		
Oral	LD50	5,480 mg/kg (rat)
Inhalative	LC50/4 h	285 mg/l (rat)

· **Specific symptoms in biological assay:**
· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Other information (about experimental toxicology):**
Human experience: Abzol or 1-Bromopropane (106-94-5): A case study of exposed worker developed polyneuropathy may have resulted from 1-BP.
· **Additional toxicological information:**
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity**
May cause genetic defects.

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· **Carcinogenicity**
May cause cancer.
· **Reproductive toxicity**
May damage fertility. May damage the unborn child.
· **STOT-single exposure**
May cause respiratory irritation. May cause drowsiness or dizziness.
· **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
· **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**
Airborne 1-Bromopropane (106-94-5) has an atmospheric lifetime of 15 days.
· **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.
Ensure proper disposal compliance with proper authorities before disposal.
· **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:**	
· **Marine pollutant:**	No

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· **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**

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **National regulations:**

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**	
106-94-5	Abzol (1-bromopropane)

· **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.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H360FD May damage fertility. May damage the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

· **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)

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LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Gas 1A: Flammable gases – Category 1A
Press. Gas (Comp.): Gases under pressure – Compressed gas
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 2: Acute toxicity – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

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