


HEMATOXYLIN – SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifier Product Catalog: Hematoxylin CAS Number: N.A.		
1.2 Product use Laboratory research.		
1.3 Details of the Supplier of the Safety Data Sheet Spatial Transcriptomics AB		
Street Address: Södra Fiskartorpsvägen 15 C City: Stockholm Province: Stockholm Postal Code: 114 33 Phone number: +46736697828 Email: sg@spatialtranscriptomics.com		
1.4 Emergency telephone number: +44 (0)870 8200418 (CHEMTREC)		
Date SDS prepared Apr - 2018	SDS prepared by Stefania Giacomello	Phone Number +46736697828

SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture Product definition: Mixture Classification according to Regulation (EC) No 1272/2008 H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 Ingredients of unknown toxicity: Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%. Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%. Ingredients of unknown ecotoxicity: Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 5% See Section 11 for more detailed information on health effects and symptoms. See Section 16 for the full text of the H statements declared above.
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2.2 Label elements



Hazard pictograms

Signal word Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear eye or face protection.

P305 + P351 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Immediately call a POISON CENTER or physician.

Hazardous ingredients Sulfuric acid, aluminium salt (3:2), octadecahydrate.

2.3 Other hazards

None known.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixture

Hazardous ingredients according to **Regulation (EC) No. 1272/2008**

Ingredient	Concentration, %	Cas #	EC Number	Index number	Classification
Haematoxylin	x.x-x.x %	517-28-2	208-237-3		
Glycerol	≥25 - ≤50%	56-81-5	200-289-5		
Sulfuric acid, aluminium salt	<5%	10043-01-3	EG: 233-135-0		Acute Tox. 4, H302

					Eye Dam. 1, H318 Flam. Liq. 3, H226 Skin Corr. 1A, H314
Acetic Acid	<3%	64-19-7	200-580-7	607-002-00-6	Flam. Liq. 3; Skin Corr. 1A; H226, H314

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

After eye contact

Get medical attention immediately. Call a poison centre or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

After inhalation

Get medical attention immediately. Call a poison centre or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

After skin contact

Get medical attention immediately. Call a poison centre or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Get medical attention immediately. Call a poison centre or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person

feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact: Causes serious eye damage.

Inhalation: No significant effects or critical hazards.

Skin contact: No significant effects or critical hazards.

Swallowing: No significant effects or critical hazards.

Over-exposure signs and symptoms

Eye contact: Adverse symptoms may include pain, watering, redness.

Inhalation: No specific data.

Skin contact: Adverse symptoms may include pain or irritation, redness, blistering may occur.

Ingestion: Adverse symptoms may include stomach pain.

4.3 Indication of any immediate medical attention and special treatment needed

To be treated symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5 – FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media.

5.2 Special hazards arising from the substance or mixture

In a fire or if heated, a pressure increase will occur, and the container may burst.

Decomposition products may contain the following materials: Carbon oxides, sulfur oxides, metal oxides.

5.3 Advice for firefighters

Special precautions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for firefighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Store between the following temperatures: 15 to 30°C (59 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

This product is only intended for research use.

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: Mist
Acetic Acid	EU OEL (Europe, 12/2017). Notes: list of indicative occupational exposure limit values STEL: 20 ppm 15 minutes. STEL: 50 mg/m ³ 15 minutes
Recommended monitoring procedure: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be	

made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy)
European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)
European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Appropriate engineering controls

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protective measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygienic measures

Immediately 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.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:

Physical state: Fluid

Colour: Dark Purple-red

Odour: Vinegar-like (slight)

Odour threshold: Not applicable

pH-value at 20 °C: 2.1 – 2.7

Change in condition Melting point/Melting range: Not applicable

Boiling point/Boiling range: Not applicable

Flash point: Not applicable

Evaporation rate: <1 (butyl acetate = 1)

Flammability (solid, gas): Not applicable

Upper/lower flammability or explosive limits: Not applicable

Vapour pressure: Not applicable

Vapour density: Not applicable

Relative density: Not applicable

Density: 1 g/cm³ (20°C)

Solubilities: Soluble in cold and hot water.

Partition coefficient: n-octanol/water: Not applicable

Auto-ignition temperature: Not applicable

Decomposition temperature: Not applicable

Viscosity: Dynamic: Not determined. **Kinematic:** Not determined.

Explosive properties: Not applicable

Oxidizing properties: Not applicable

9.2 Other information

No further relevant information available.

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials, reducing materials, metals, acids and alkalis.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient	Result	Species	Dose	Exposure
Sulfuric acid, aluminum salt (3:2), octadecahydrate	LD50 Oral	Rat	370 mg/kg	-
Acetic acid	LC50 Inhalation vapour	Rat	11 000	4 hours
	LD50 Dermal	Rabbit	mg/m ³	-
	LD50 Oral	Rat	1060 mg/kg 3310 mg/kg	-

Acute toxicity estimates

Route	ATE Value
Oral	7985.3 mg/kg

Irritation/corrosion

Product/ingredient	Result	Species	Score	Exposure	Observation
Acetic acid	Skin – severe irritant	Rabbit	-	525 mg	-

Sensitizer

Conclusion/summary: Not applicable

Specific target organ toxicity (single exposure): No data available

Specific target organ toxicity (repeated exposure): No data available

Aspiration hazard: No data available

Information on likely routes of exposure: Oral, dermal, inhalation.

Potential acute health effects:

Inhalation: No known significant effects or critical hazards

Ingestion: No known significant effects or critical hazards

Skin contact: No known significant effects or critical hazards

Eye contact: Causes serious eye damage

Symptoms related to the physical, chemical and toxicological characteristics:

Inhalation: No specific data

Ingestion: Adverse symptoms may include the following: stomach pains

Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur

Eye contact: Adverse symptoms may include the following: pain, watering, redness

Delayed and immediate as well as chronic effects from short-long exposure:

Short term exposure

Potential immediate effects: N.A.

Potential delayed effects: N.A.

Long term exposure

Potential immediate effects: N.A.

Potential delayed effects: N.A.

Potential chronic health effects

General: No known significant effects or critical hazards

Carcinogenicity: No known significant effects or critical hazards

Mutagenicity: No known significant effects or critical hazards

Teratogenicity: No known significant effects or critical hazards

Developmental effects: No known significant effects or critical hazards

Fertility effects: No known significant effects or critical hazards

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity			
Product/ingredient name	Result	Species	Exposure
Acetic acid	Acute EC50 73400 µg/l Fresh water	Algae - Navicula seminulum	96 hours 48 hours
	Acute EC50 65000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours 96 hours
	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	
	Acute LC50 75000 µg/l Fresh water	Fish - Lepomis macrochirus	

12.2 Persistence			
Not available			
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetic acid	-	-	Readily

12.3 Bioaccumulative potential			
Product/ingredient name	LogP_{ow}	BCF	Potential
Acetic acid	-0.17	3.16	low

12.4 Mobility in soil
Soil/water partition coefficient (K_{oc}): No data available
Mobility: No data available

12.5 Results of PBT and vPvB assessment
PBT: No data available
vPvB: No data available

12.6 Other adverse effects
 No known significant effects or critical hazards.

SECTION 13 – DISPOSAL CONSIDERATION

13.1 Waste treatment methods

Product

Methods of disposal

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste

The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 – TRANSPORT INFORMATION

ADR/RID / IMDG / IATA: Not regulated

14.6 Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

No data available.

SECTION 15 – REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of **Regulation (EC) No. 1907/2006**.

15.2 Chemical safety assessment

For this product no Chemical Safety Assessment was carried out.

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.

Department issuing SDS: Spatial Transcriptomics AB

Contact: Dr. Stefania Giacomello

Abbreviations and acronyms: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N.A. = Not applicable PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Eye Dam. 1, H318	Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye

Full text of classifications (CLP/GHS)

Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Corr. 1A H314 Eye Dam. 1, H318	ACUTE TOXICITY (oral) – Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1 FLAMMABLE LIQUIDS - Category 3 Skin Corr. 1A, SKIN CORROSION/IRRITATION - Category 1A
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Disclaimer	<p>This SDS is intended for research use only and to be used in laboratories. The SDS is intended to provide a brief summary of our knowledge and guidance regarding the use of the materials in this kit. The information contained here has been compiled from sources considered by Spatial Transcriptomics to be dependable and is accurate to the best of the company’s knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.</p> <p>This information is offered in good Faith. Each user of this kit need to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment.</p> <p>Spatial Transcriptomics assumed no responsibility for injury to the recipient or third person for any damage to any property resulting from misuse or the product.</p>
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Safety Data Sheet (SDS) – Hematoxylin

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