


FIXATION REAGENT – SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifier Product Catalog: Fixation Reagent CAS and REACH Number: Formaldehyde: CAS-No: 50-00-0 REACH: 01-2119488953-20-XXXX Methanol: CAS-No: 67-56-1	
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 +1-703-527-3887 (CHEMTREC)	

SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) Flammable liquids (Category 4), H227 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Skin corrosion (Category 1B), H314 Serious eye damage (Category 1), H318 Skin sensitisation (Category 1), H317 Germ cell mutagenicity (Category 2), H341 Carcinogenicity (Category 1A), H350 Specific target organ toxicity - single exposure (Category 1), H370 Acute aquatic toxicity (Category 3), H402 For the full text of the H-Statements mentioned in this Section, see Section 16. 2.2 GHS Label elements, including precautionary statements Pictogram



Signal word Danger

Hazard statement(s)

- | | |
|--------------------|---|
| H227 | Combustible liquid. |
| H301 + H311 + H331 | Toxic if swallowed, in contact with skin or if inhaled. H314 Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer. |
| H370 | Causes damage to organs. |
| H402 | Harmful to aquatic life. |

Precautionary statement(s)

- | | |
|---------------------------|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P301 + P310 + P330 | IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. |
| P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 + P310 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. |
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |

P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - None	

SECTION 3 – COMPOSITION /INFORMATION ON INGREDIENTS

3.2 Mixtures					
Hazardous ingredients according to Regulation (EC) No 1272/2008					
Ingredient	Concentration, % (v/v)	Cas #	EC Number	Index number	Classification
Formaldehyde	3,0	50-00-0	200-001-8	605-001-00-5	Acute Tox. 3; Skin Corr. 1B; Skin Sens. 1; Muta. 2; Carc. 1B; H301, H331, H311, H314, H317, H341, H350 Concentration limits: >= 25 %: Skin Corr. 1B, H314; 5 - < 25 %: Skin Irrit. 2, H315; 5 - < 25 %: Eye Irrit. 2, H319; >= 5 %: STOT SE 3, H335; >= 0,2 %: Skin Sens. 1, H317;
Methanol	6,0	67-56-1	200-659-6	603-001-00-X	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311,

					H370 Concentration limits: $\geq 10 - < 20$ % ≥ 10 %: STOT SE 1, H370; $3 - < 10$ %: STOT SE 2, H371
Phosphate Buffered Saline	≥ 90				

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

After eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult physician.

After skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

Dry chemical or carbon dioxide. Use water spray or alcohol-resistant foam to fight larger fires. Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

No data available.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for fire-fighting if necessary and protective clothing to prevent contact with skin.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

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

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters				
Components with workplace parameters				
Component	CAS-No.	Value	Control parameters	Basis
Formaldehyde	50-00-0	C	0.300000 ppm	USA. ACGIH Threshold Limit Values
	Remarks	Upper Respiratory Tract irritation Eye irritation Suspected human carcinogen Sensitizer		
		TWA	0.016000 ppm	USA. NIOSH Recommended Exposure Limits
		Potential Occupational Carcinogen See Appendix A		
		C	0.100000 ppm	USA. NIOSH Recommended Exposure Limits
		Potential Occupational Carcinogen See Appendix A		
		Substance listed; for more information see OSHA document 1910.1048		
		Substance listed; for more information see OSHA document 1910.1048		
		PEL	0.750000 ppm	OSHA Specifically Regulated Chemicals/Carcinogens
		1910.1048 This standard applies to all occupational exposures to formaldehyde, i.e. from formaldehyde gas, its solutions, and materials that release formaldehyde.		
		STEL	2.000000 ppm	OSHA Specifically Regulated Chemicals/Carcinogens
		1910.1048 This standard applies to all occupational exposures to formaldehyde, i.e. from formaldehyde gas, its solutions, and materials that release formaldehyde.		
		TWA	0.016000 ppm	USA. NIOSH Recommended Exposure Limits
		Potential Occupational Carcinogen Formalin is an aqueous solution that is 37% formaldehyde by weight; inhibited solutions usually contain 6-12% methyl alcohol. Also see specific listings.		
		See Appendix A		
		C	0.100000 ppm	USA. NIOSH Recommended Exposure Limits

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		Potential Occupational Carcinogen Formalin is an aqueous solution that is 37% formaldehyde by weight; inhibited solutions usually		
		C	0.3 ppm	USA. ACGIH Threshold Limit Values
		Dermal Sensitization Respiratory sensitization Upper Respiratory Tract irritation Eye irritation		
		TWA	0.016 ppm	USA. NIOSH Recommended Exposure Limits
		Potential Occupational Carcinogen Formalin is an aqueous solution that is 37% formaldehyde by weight; inhibited solutions usually contain 6-12% methyl alcohol. Also see specific listings		
		C	0.1 ppm	USA. NIOSH Recommended Exposure Limits
		Potential Occupational Carcinogen Formalin is an aqueous solution that is 37% formaldehyde by weight; inhibited solutions usually		
		PEL	0.75 ppm	California permissible exposure limits for chemical contaminants (Title 8, Section 1027)
		see Section 5217		
		STEL	2 ppm	California permissible exposure limits for chemical
		see Section 5217		
Methanol	67-56-1	TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values
		Headache Nausea Dizziness Eye		
		STEL	250.000000 ppm	USA. ACGIH Threshold Limit Values
		Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or		
		TWA	200.000000 ppm 260.000000	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		ST	250.000000 ppm 325.000000	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		

		TWA	200.000000 ppm 260.000000 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m ³ is approximate.		
		TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or		
		STEL	250 ppm	USA. ACGIH Threshold Limit Values
		Headache Nausea Dizziness Eye damage		
		TWA	200 ppm 260 mg/m ³	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		ST	250 ppm 325 mg/m ³	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		TWA	200 ppm 260 mg/m ³	USA. Occupational Exposure Limits
		The value in mg/m ³ is approximate.		
		STEL	250 ppm 325 mg/m ³	USA. OSHA - TABLE Z-1 Limits for
		Skin notation		
		TWA	200 ppm 260 mg/m ³	USA. OSHA - TABLE Z-1 Limits for
		Skin notation		
		C	1,000 ppm	California permissible exposure limits for chemical
		Skin		
		PEL	200 ppm 260 mg/m ³	California permissible exposure limits for
		Skin		

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15.0000 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure)			
		Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices
		End of shift (As soon as possible after exposure)			

8.2 Exposure controls

Appropriate engineering controls: General industrial hygiene practice.

Personal protective equipment

Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Full contact Material: Nitrile rubber Minimum layer thickness: 0,4 mm Break through time: 480 min Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0,2 mm Break through time: 60 min Material tested:Dermatril® P (KCL 743 / Aldrich Z677388, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario

Body Protection impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure Do not let product enter drains.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:

Physical state: Liquid

Colour: Clear

Odour: No data available.

Odour threshold: N.A.

pH-value at 20 °C: No data available.

Melting point: No data available.

Boiling point/Boiling range No data available.
Flash point: No data available.
Evaporation rate: No data available.
Flammability (solid, gas): No data available.
Upper/lower flammability or explosive limits: No data available.
Vapour pressure: No data available.
Vapour density: No data available.
Relative density: No data available.
Solubilities: No data available.
Partition coefficient: n-octanol/water: No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: Dynamic: Not determined. **Kinematic:** Not determined.
Explosive properties: No data available.
Oxidizing properties: No data available.

9.2 Other information No data 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 under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products Hazardous decomposition products formed under fire conditions. - Carbon oxides In the event of fire: see section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Skin corrosion/irritation

Skin - Rabbit Result: Corrosive after 3 minutes to 1 hour of exposure - 20 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Corrosive - 7 d (OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test - Guinea pig Result: Causes sensitisation. May cause allergic skin reaction. (OECD Test Guideline 406)

Germ cell mutagenicity

No data available.

Carcinogenicity

IARC: 1 - Group 1: Carcinogenic to humans (Formaldehyde)

NTP: Known to be human carcinogen (Formaldehyde)

OSHA: OSHA specifically regulated carcinogen (Formaldehyde)

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: LP8925000.

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available.

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Harmful to aquatic life.

SECTION 13 – DISPOSAL CONSIDERATION

13.1 Waste treatment methods

Product Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging Dispose of as unused product.

SECTION 14 – TRANSPORT INFORMATION

DOT (US)

UN number: 2209 Class:
8 Packing
group: III

Proper shipping name:
Formaldehyde solutions

Reportable Quantity (RQ): 260 lbs
Poison Inhalation Hazard: No

IMDG

UN number: 2209 Class: 8 Packing group:
III

EMS-No: F-A, S-B

Proper shipping name: FORMALDEHYDE SOLUTION

IATA

UN number: 2209 Class:
8 Packing
group: III

Proper shipping name:
Formaldehyde solution

SECTION 15 – REGULATORY INFORMATION

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Formaldehyde	CAS-No. 50-00-0	Revision Date 2007-07-01
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SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
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Formaldehyde	50-00-0	2007-07-01
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SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Formaldehyde	CAS-No. 50-00-0	Revision Date 2007-07-01
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Methanol	67-56-1	2007-07-01
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Pennsylvania Right To Know Components

Water	CAS-No. 7732-18-5	Revision Date
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Formaldehyde	50-00-0	2007-07-01
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Methanol	67-56-1	2007-07-01
New Jersey Right To Know Components		
Water	CAS-No. 7732-18-5	Revision Date 2007-07-01
Formaldehyde	50-00-0	2007-07-01
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
WARNING! This product contains a chemical known to the State of California to cause cancer.		
Formaldehyde	CAS-No. 50-00-0	Revision Date 2007-09-28
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.		
Methanol	CAS-No. 67-56-1	Revision Date 2012-03-16

SECTION 16 – OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.	
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H371	May cause damage to organs.

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.

The information in Section 11 and 12 is based on 37 % formaldehyde dissolved in methanol.

Department issuing SDS: Spatial Transcriptomics AB

Contact: Dr. Stefania Giacomello

Disclaimer

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. 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. 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.

Date of issue/ Date of revision: 2018/05/31

Date of previous issue: No previous validation

Version: 1