SAFETY DATA SHEET
FIXATIVE

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

1.1. Product identifier

Product name

FIXATIVE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

For research use only.

1.3. Details of the supplier of the safety data sheet

Supplier

Web: www.bio-rad-antibodies.com
Bio-Rad
Endeavour House
Langford Business Park
Kidlington
Oxford
OX5 1GE
Tel. +44 (0)1865 852700
antibody_safetydatasheets@bio-rad.com

Contact person

Technical Services Manager

1.4. Emergency telephone number

Emergency telephone

+1 7037415970 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards

Not Classified

Health hazards

Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Carc. 1B - H350 STOT SE 2 - H371

Environmental hazards

Not Classified

Classification (67/548/EEC or 1999/45/EC)

Xn;R20/21/22,R68/20/21/22. Carc. Cat. 3;R40. Xi;R36/37/38. R43.

Human health

The product contains a sensitising substance. May cause sensitisation or allergic reactions in sensitive individuals. Contains a substance/a group of substances which may cause cancer. The product is irritating to eyes and skin. This product is harmful if swallowed. Harmful by inhalation.

2.2. Label elements

Pictogram

![Pictogram Image]
FIXATIVE

Signal word
Danger

Hazard statements
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H371 May cause damage to organs.

Precautionary statements
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.
P501 Dispose of contents/ container in accordance with national regulations.

Contains
FORMALDEHYDE ...%, METHANOL

Supplementary precautionary statements
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe vapour/ spray.
P261 Avoid breathing vapour/ spray.
P264 Wash contaminated 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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/ attention.
P310 Immediately call a POISON CENTER/ doctor.
P321 Specific treatment (see medical advice on this label).
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.

2.3. Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
**FIXATIVE**

**FORMALDEHYDE**

<table>
<thead>
<tr>
<th>CAS number: 50-00-0</th>
<th>EC number: 200-001-8</th>
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</table>

**Classification**

- Acute Tox. 3 - H301
- Acute Tox. 3 - H311
- Acute Tox. 3 - H331
- Skin Corr. 1B - H314
- Eye Dam. 1 - H318
- Skin Sens. 1 - H317
- Muta. 2 - H341
- Carc. 1B - H350
- STOT SE 3 - H335

**Classification (67/548/EEC or 1999/45/EC)**

- Carc. Cat. 3; R40 T; R23/24/25 C; R34 R43

**METHANOL**

<table>
<thead>
<tr>
<th>CAS number: 67-56-1</th>
<th>EC number: 200-659-6</th>
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</table>

**Classification**

- Flam. Liq. 2 - H225
- Acute Tox. 3 - H301
- Acute Tox. 3 - H311
- Acute Tox. 3 - H331
- STOT SE 1 - H370

**Classification (67/548/EEC or 1999/45/EC)**

- F; R11 T; R23/24/25, R39/23/24/25

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

**Composition comments**

No other ingredients, including those with occupational exposure limits, present above the level of disclosure

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**Inhalation**

If spray/mist has been inhaled, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Get medical attention.

**Ingestion**

Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention.

**Skin contact**

Remove contaminated clothing and rinse skin thoroughly with water. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

**Eye contact**

Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

**Inhalation**

Harmful: possible risk of irreversible effects through inhalation. May cause an asthma-like shortness of breath.

**Ingestion**

Harmful if swallowed. May cause stomach pain or vomiting.

**Skin contact**

Harmful in contact with skin. May cause sensitisation or allergic reactions in sensitive individuals.

**Eye contact**

Irritation, burning, lachrymation, blurred vision after liquid splash.

3/10
FIXATIVE

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor

No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

May explode when heated or when exposed to flames or sparks.

Hazardous combustion products

Does not decompose when used and stored as recommended.

5.3. Advice for firefighters

Protective actions during firefighting

No specific firefighting precautions known.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. If ventilation is inadequate, suitable respiratory protection must be worn.

6.2. Environmental precautions

Environmental precautions

Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other sections

Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients. Work in fume cupboard. Avoid inhalation of vapours/spray and contact with skin and eyes. Promptly remove any clothing that becomes wet or contaminated. Wash hands after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Keep only in the original container. Store at specified temperature. Refer to product label.

Storage class

Flammable liquid storage.

7.3. Specific end use(s)
FIXATIVE

Specific end use(s)  The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

FORMALDEHYDE
Long-term exposure limit (8-hour TWA): WEL 2 ppm 2.5 mg/m³
Short-term exposure limit (15-minute): WEL 2 ppm 2.5 mg/m³

METHANOL
Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 266 mg/m³(Sk)
Short-term exposure limit (15-minute): WEL 250 ppm(Sk) 333 mg/m³(Sk)

WEL = Workplace Exposure Limit

8.2. Exposure controls

Protective equipment

Appropriate engineering controls Provide adequate ventilation. Avoid inhalation of vapours and spray/mists. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection Wear chemical splash goggles.

Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. It is recommended that gloves are made of the following material: Nitrile rubber. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended.

Other skin and body protection Wear appropriate clothing to prevent any possibility of skin contact. Wear apron or protective clothing in case of contact.

Hygiene measures Provide eyewash station. Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

Respiratory protection No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Liquid.

Colour Colourless to pale yellow.

Odour No characteristic odour.

pH Not determined.

Melting point Not determined.

Initial boiling point and range Not determined.

Flash point Not applicable.
FIXATIVE

Evaporation rate Not determined.
Upper/lower flammability or explosive limits Not applicable.
Vapour pressure Not determined.
Vapour density Not determined.
Relative density Not determined.
Solubility(ies) Soluble in water.
Partition coefficient Not determined.
Auto-ignition temperature Not determined.
Decomposition Temperature Not determined.
Viscosity Not determined.
Explosive properties No unusual fire or explosion hazards noted.
Oxidising properties Not determined.

9.2. Other information
Other information None.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity Strong acids. Strong oxidising agents.

10.2. Chemical stability
Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid
Conditions to avoid Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Hazardous decomposition products None at ambient temperatures. Heating may generate the following products: Vapours/gases/fumes of: Formaldehyde

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological effects Harmful if swallowed. Harmful in contact with skin. Harmful by inhalation. May cause sensitisation by skin contact.
Other health effects Carcinogen Category 3.
Acute toxicity - oral ATE oral (mg/kg) 714.29
## FIXATIVE

<table>
<thead>
<tr>
<th>Acute toxicity - dermal</th>
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</thead>
<tbody>
<tr>
<td>ATE dermal (mg/kg)</td>
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<tr>
<td>Acute toxicity - inhalation</td>
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<tr>
<td>Notes (inhalation LC₅₀)</td>
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<tr>
<td>ATE inhalation (gases ppm)</td>
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<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td>21.43</td>
</tr>
<tr>
<td>ATE Inhalation (dusts/mists mg/l)</td>
<td>3.57</td>
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<td>Skin corrosion/irritation</td>
<td>Not determined.</td>
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<td>Human skin model test</td>
<td></td>
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<td>Extreme pH</td>
<td>7.2</td>
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<tr>
<td>Serious eye damage/irritation</td>
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<tr>
<td>Serious eye damage/irritation</td>
<td></td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not determined.</td>
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<tr>
<td>Genotoxicity - in vitro</td>
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<tr>
<td>Genotoxicity - in vivo</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not determined.</td>
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<tr>
<td>Carcinogenicity</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not determined.</td>
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<tr>
<td>Reproductive toxicity - fertility</td>
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<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Not determined.</td>
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<tr>
<td>STOT - single exposure</td>
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<tr>
<td>Specific target organ toxicity - repeated exposure</td>
<td>Not determined.</td>
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<tr>
<td>STOT - repeated exposure</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not determined.</td>
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<tr>
<td>Aspiration hazard</td>
<td></td>
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<tr>
<td>General information</td>
<td>Knowledge about health hazard is incomplete.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Harmful by inhalation. May cause an asthma-like shortness of breath.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Harmful if swallowed. Gastrointestinal symptoms, including upset stomach.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Liquid may irritate skin. May cause sensitisation or allergic reactions in sensitive individuals.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Irritation, burning, lachrymation, blurred vision after liquid splash.</td>
</tr>
<tr>
<td>Acute and chronic health hazards</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
<tr>
<td>Route of exposure</td>
<td>Ingestion. Skin and/or eye contact</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological Information
FIXATIVE

Ecotoxicity There are no data on the ecotoxicity of this product.

12.1. Toxicity
Acute aquatic toxicity
Acute toxicity - fish Not determined.

12.2. Persistence and degradability
Persistence and degradability There are no data on the degradability of this product.

12.3. Bioaccumulative potential
Bioaccumulative potential No data available on bioaccumulation.
Partition coefficient Not determined.

12.4. Mobility in soil
Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment
Results of PBT and vPvB assessment No information available.

12.6. Other adverse effects
Other adverse effects The product contains a substance which may cause long-term adverse effects in the aquatic environment. However, at the concentrations present this product does not need to be classified as hazardous for the environment and the effects are not expected to be significant.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
General Information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Road transport notes Not classified.

Rail transport notes Not classified.

Sea transport notes Not classified.

Air transport notes Not classified.

14.1. UN number
Not applicable.

14.2. UN proper shipping name
Not applicable.

14.3. Transport hazard class(es)
Not applicable.

14.4. Packing group
FIXATIVE

Not applicable.

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
Not known.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

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

Guidance
Workplace Exposure Limits EH40.
Approved Classification and Labelling Guide (Sixth edition) L131.
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

General information
Only trained personnel should use this material.

Revision date 24/09/2018
Revision 5
Supersedes date 01/02/2017
SDS number 10498

Risk phrases in full
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.
R36/37/38 Irritating to eyes, respiratory system and skin.
R37 Irritating to respiratory system.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40 Limited evidence of a carcinogenic effect.
R43 May cause sensitisation by skin contact.
R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
Hazard statements in full

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.
H370 Causes damage to organs.
H371 May cause damage to organs.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.