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

1.1. Product identifier

Product name  ANTIBODY PREPARATION

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
ANTIBODY PREPARATION

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 Skin Sens. 1 - H317
Environmental hazards Not Classified

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

Human health The product contains a sensitising substance. May cause sensitisation or allergic reactions in sensitive individuals.

2.2. Label elements

Pictogram

Signal word Warning
Hazard statements H317 May cause an allergic skin reaction.
Precautionary statements P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P501 Dispose of contents/ container in accordance with national regulations.

Contains METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6

Supplementary precautionary statements
P261 Avoid breathing vapour/ spray. P272 Contaminated work clothing should not be allowed out of the workplace. P321 Specific treatment (see medical advice on this label). P362+P364 Take off contaminated clothing and wash it before reuse.

2.3. Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
ANTIBODY PREPARATION

METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6
CAS number: 55965-84-9
M factor (Acute) = 100  M factor (Chronic) = 100

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification (67/548/EEC or 1999/45/EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 3 - H301</td>
<td>T;R23/24/25 C;R34 R43 N;R50/53</td>
</tr>
<tr>
<td>Acute Tox. 3 - H311</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 3 - H331</td>
<td></td>
</tr>
<tr>
<td>Skin Corr. 1B - H314</td>
<td></td>
</tr>
<tr>
<td>Eye Dam. 1 - H318</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Acute 1 - H400</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 1 - H410</td>
<td></td>
</tr>
</tbody>
</table>

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. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

Ingestion
Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues.

Skin contact
Remove contaminated clothing and rinse skin thoroughly with water. 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
Irritation of nose, throat and airway.

Ingestion
May cause discomfort if swallowed.

Skin contact
Skin irritation. May cause sensitisation or allergic reactions in sensitive individuals.

Eye contact
May cause severe eye irritation.

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.

5.2. Special hazards arising from the substance or mixture

Specific hazards
No unusual fire or explosion hazards noted.

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.

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. 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**
Avoid inhalation of vapours/spray and contact with skin and eyes. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

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**
Refer to product datasheet.

7.3. Specific end use(s)

**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

8.2. Exposure controls

**Protective equipment**

<table>
<thead>
<tr>
<th>Appropriate engineering controls</th>
<th>Provide adequate ventilation. Avoid inhalation of vapours and spray/mists. Observe any occupational exposure limits for the product or ingredients.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye/face protection</td>
<td>Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.</td>
</tr>
<tr>
<td>Hand protection</td>
<td>Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.</td>
</tr>
</tbody>
</table>
ANTIBODY PREPARATION

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless to pale yellow.</td>
</tr>
<tr>
<td>Odour</td>
<td>No characteristic odour.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>&lt;100 °C @ 760 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper/lower flammability or</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>explosive limits</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No unusual fire or explosion hazards noted.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

9.2. Other information
None.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity
There are no known reactivity hazards associated with this product.

10.2. Chemical stability
Stability
Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions
ANTIBODY PREPARATION

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
Materials to avoid

10.6. Hazardous decomposition products
Hazardous decomposition products
Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Not determined.

Skin corrosion/irritation
Human skin model test
Not determined.

Extreme pH
7.2

Serious eye damage/irritation
Not determined.

Germ cell mutagenicity
Genotoxicity - in vitro
Not determined.

Genotoxicity - in vivo
Not determined.

Carcinogenicity
Carcinogenicity
Not determined.

Reproductive toxicity
Reproductive toxicity - fertility
Not determined.

Specific target organ toxicity - single exposure
STOT - single exposure
Not determined.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Not determined.

Aspiration hazard
Aspiration hazard
Not determined.

General information
Knowledge about health hazard is incomplete.

Inhalation
Moderately irritating.

Ingestion
May cause discomfort if swallowed.

Skin contact
Liquid may irritate skin. May cause sensitisation or allergic reactions in sensitive individuals.

Eye contact
Irritation of eyes and mucous membranes.

Acute and chronic health hazards
May cause sensitisation by skin contact.
ANTIBODY PREPARATION

Route of exposure
Ingestion. Skin and/or eye contact

Toxicological information on ingredients.

<table>
<thead>
<tr>
<th>Methanesulfonic acid</th>
<th>Acute toxicity - oral (mg/kg)</th>
<th>100.0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute toxicity - dermal (mg/kg)</td>
<td>300.0</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological Information

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

12.1. Toxicity
Acute aquatic toxicity
Not determined.

Ecological information on ingredients.

<table>
<thead>
<tr>
<th>Methanesulfonic acid</th>
<th>Acute aquatic toxicity (LE(C)₅₀)</th>
<th>0.001 &lt; L(E)C₅₀ ≤ 0.01</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M factor (Acute)</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Chronic aquatic toxicity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M factor (Chronic)</td>
<td>100</td>
</tr>
</tbody>
</table>

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.
**ANTIBODY PREPARATION**

**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
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.
## ANTIBODY PREPARATION

<table>
<thead>
<tr>
<th>Revision date</th>
<th>20/09/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision</td>
<td>2</td>
</tr>
<tr>
<td>Supersedes date</td>
<td>28/09/2017</td>
</tr>
<tr>
<td>SDS number</td>
<td>20392</td>
</tr>
</tbody>
</table>
| Hazard statements in full | H301 Toxic 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.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects. |

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.