SAFETY DATA SHEET
HISPEC ASSAY DILUENT

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

1.1. Product identifier

Product name: HISPEC ASSAY DILUENT

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: Tel. +44 (0) 1865 852700 (9.00 a.m. - 5.00 p.m. Mon-Fri)

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: Aquatic Chronic 3 - H412

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.
H412 Harmful to aquatic life with long lasting effects.
HISPEC ASSAY DILUENT

Precautionary statements
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P273 Avoid release to the environment. 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.

Supplemental label information
Contains METHYL-2H or METHYL-4 (3:1) Mixture (0.00595%). May produce an allergic reaction.

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

<table>
<thead>
<tr>
<th>TRIS(HYDROXYMETHYL)AMINOMETHANE</th>
<th>5-10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 77-86-1</td>
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</table>

<table>
<thead>
<tr>
<th>METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6</th>
<th>0.00595%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 55965-84-9</td>
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<tr>
<td>M factor (Acute) = 100</td>
<td>M factor (Chronic) = 100</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification (67/548/EEC or 1999/45/EC)</th>
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</thead>
<tbody>
<tr>
<td>Skin Irr. 2 - H315</td>
</tr>
<tr>
<td>Eye Irr. 2 - H319</td>
</tr>
<tr>
<td>STOT SE 3 - H335</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification (67/548/EEC or 1999/45/EC)</th>
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<tbody>
<tr>
<td>Acute Tox. 3 - H301</td>
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<tr>
<td>Acute Tox. 3 - H311</td>
</tr>
<tr>
<td>Acute Tox. 3 - H331</td>
</tr>
<tr>
<td>Skin Corr. 1B - H314</td>
</tr>
<tr>
<td>Eye Dam. 1 - H318</td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
</tr>
<tr>
<td>Aquatic Acute 1 - H400</td>
</tr>
<tr>
<td>Aquatic Chronic 1 - H410</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.
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Ingestion
Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention.

Skin contact
Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention promptly if symptoms occur after washing.

Eye contact
Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

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

Inhalation
Irritation of nose, throat and airway.

Ingestion
Harmful if swallowed.

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

Eye contact
May be slightly irritating to eyes.

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
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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. Wash contaminated clothing before reuse.

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
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 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.
Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.
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 hands 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 pH (concentrated solution): 7.2
Melting point Not determined.
Initial boiling point and range <100 °C @ 760 mm Hg
Flash point Not applicable.
HISPEC ASSAY DILUENT

Evaporation rate: Not determined.
Upper/lower flammability or explosive limits: Not determined.
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: 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
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: Strong oxidising agents. Strong acids. Strong alkalies.

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.
Serious eye damage/irritation
Serious eye damage/irritation: Not determined.
HISPEC ASSAY DILUENT

Skin sensitisation
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 May cause respiratory system irritation.
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.
Route of entry Ingestion. Skin and/or eye contact

Toxicological information on ingredients.

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

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>ATE oral (mg/kg)</th>
<th>ATE dermal (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - oral</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity - dermal</td>
<td></td>
<td>300.0</td>
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</table>

SECTION 12: Ecological Information

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

12.1. Toxicity
Acute toxicity - fish Not determined.

Ecological information on ingredients.

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

<table>
<thead>
<tr>
<th>Acute aquatic toxicity</th>
<th>LE(C)₅₀</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.001 &lt; L(E)C50 ≤ 0.01</td>
</tr>
</tbody>
</table>
HISPEC ASSAY DILUENT

M factor (Acute) 100
Chronic aquatic toxicity
M factor (Chronic) 100

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.

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
Not applicable.
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14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
Not applicable.

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

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 08/08/2017
Revision 6
Supersedes date 08/08/2017
SDS number 10265

Risk phrases in full
R36/37/38 Irritating to eyes, respiratory system and skin.

Hazard statements in full
H301 Toxic if swallowed.
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.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful 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.