GENERAL SECTION

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers
Product name: SCLEROSTIN ELISA
ENZYME IMMUNOASSAY FOR THE QUANTITATIVE
DETERMINATION OF SCLEROSTIN
IN HUMAN SERUM, EDTA PLASMA OR HEPARIN PLASMA
Product Number: CAT. NO. BI-20492, 12 X 8 TESTS
Brand: Biomedica Medizinprodukte GmbH & Co KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: FOR RESEARCH USE ONLY
NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet
Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien,
Divischgasse 4
Telephone: +43/1/291 07 45
Fax: +43/1/291 07 85
E-mail: export@bmgrp.com

1.4. Emergency telephone number
Phone: +43-1-4064343

1.5. Further information
All reagents sold by BIOMEDICA must be handled only by qualified laboratory personal.
All preservative substances used in our products are there in too low concentrations to
constitute any danger and standard laboratory precautions should suffice for effective
protection.
Nonetheless, in the case of unusual exposure, the form(s), furnished in the appendix,
provoking all the necessary information.

1.6. Partition of section 2-16 of the data safety sheet in specific forms
The following are hazardous substances present in this product:

<table>
<thead>
<tr>
<th>Hazardous substance</th>
<th>Substance part of the following ELISA kit component, [Identification name of vial]</th>
<th>Quantity/concentration of (hazardous) substance</th>
<th>Material Safety data sheet [no.]</th>
<th>Page of this MSDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate (TMB solution)</td>
<td>TMB</td>
<td>0.1%</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>STOP</td>
<td>9.81%</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Antibody (anti-sclerostin antibody)</td>
<td>AB</td>
<td>0.2%</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Conjugate (Streptavidin-HRPO)</td>
<td>CONJ</td>
<td>0.915%</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Assay buffer</td>
<td>ASYBUF</td>
<td>5.3%</td>
<td>5</td>
<td>31</td>
</tr>
<tr>
<td>Standards, Control</td>
<td>STD, CTRL</td>
<td>100%</td>
<td>6</td>
<td>38</td>
</tr>
<tr>
<td>Wash buffer concentrate 20x</td>
<td>WASHBUF</td>
<td>18.16%</td>
<td>7</td>
<td>46</td>
</tr>
</tbody>
</table>
SPECIFIC SECTION

Material safety data sheet no.1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers

Kit component name: TMB substrate
component ID: TMB
Brand: Biomedica Medizinprodukte GmbH & Co KG

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

Identified uses: FOR RESEARCH USE ONLY
NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet

Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien, Divischgasse 4
Telephone: +43/1/291 07 45
Fax: +43/1/291 07 85
E-mail: export@bmgrp.com

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Although it is not classified as hazardous according to the European Regulation 1999/45/EC the product should be handled with the usual care for all chemicals, in order to avoid synergistic effects. Because of the preservative it may be dangerous for water organisms.

2.2. Label elements

Labeling according Regulation (EC) No 1272/2008 [CLP]

Pictogram none
Signal word none
Hazard statement none
Precautionary statement none
Supplemental hazard statements none

2.3. Other hazards

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

See section 3.2

3.2. Mixtures

Chemical characterization of product composition:
Aqueous solution of TMB, hydrogen peroxide, Tween 20 as detergent, citrate, EDTA, Kathon CG as preservative
Dangerous components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>R-phrases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,3',5,5'-Tetramethylbenzidine</td>
<td>EINECS: 259-364-6</td>
<td>CAS-NR: 54827-17-7</td>
<td>Xn, R20/21/22-36/37/38-40</td>
</tr>
<tr>
<td>Ethylene diamine tetraacetate disodium salt</td>
<td>EINECS: 205-358-3</td>
<td>CAS-NR: 6381-92-6</td>
<td>Xi, R36/38, S26/37/39</td>
</tr>
<tr>
<td>5-Chlor-2-methyl-4-isothiazolin-3-one</td>
<td>EINECS: 247-500-7</td>
<td>CAS-NR: 26172-55-4</td>
<td>T, N, R23/24/25-34-43-50/53</td>
</tr>
<tr>
<td>2-Methyl-4-isothiazolin-3-one</td>
<td>EINECS: 220-239-6</td>
<td>CAS-NR: 2682-20-4</td>
<td>T, N, R23/24/25-34-43-50/53</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>EINECS: 231-765-0</td>
<td>CAS-NR: 7722-84-1</td>
<td>C, O, R8/34</td>
</tr>
</tbody>
</table>

For the full text of the H-statements and R-phrases mentioned in this section, see section 16

4. FIRST AID MEASURES

4.1. Description of the first aid measures

General advice
Contaminated clothing should be washed prior to next use. Consult a physician, show this safety data sheet to the doctor in attendance.

In case of skin contact
After contact with skin carefully wash with water.

In case of eye contact
After contact with the eyes carefully rinse the opened eye with running water for several minutes and consult a physician.

If swallowed
After swallowing, rinse mouth and drink water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed
No data available.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture
No data available.
5.3. Advice for firefighters
   In case of fire toxic vapours can be released.
   Wear breath protective mask and protective clothes if necessary during fire fighting.

5.4. Further information
   The product itself is not inflammable; extinguishing measures should therefore be prepared for an environmental fire.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
   Use personal protective equipment. Avoid contact with skin and eyes.

6.2. Environmental precautions
   Do not let product enter drains.

6.3. Methods and materials for containment and cleaning up
   Dilute with plenty of water. Ventilate and clean affected area very carefully after having completely disposed off the material.

6.4. Reference to other sections
   No data available.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
   Special measures are not required.

7.2. Conditions for safe storage, including any incompatibilities
   At 2-8°C in closed HDPE or PP bottles. Protect from light.

7.3. Specific end uses
   No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
   Components with workplace parameters

<table>
<thead>
<tr>
<th>EINECS</th>
<th>name</th>
<th>limit value according MAK (TRGS 900)</th>
</tr>
</thead>
<tbody>
<tr>
<td>259-364-6</td>
<td>3,3’,5,5’-Tetramethylbenzidine</td>
<td>not listed</td>
</tr>
<tr>
<td>205-358-3</td>
<td>Ethylene diamine tetraacetate disodium salt</td>
<td>not listed</td>
</tr>
<tr>
<td>247-500-7</td>
<td>5-Chlor-2-methyl-4-isothiazolin-3-one</td>
<td>0.05 mg/m3</td>
</tr>
<tr>
<td>220-239-6</td>
<td>2-Methyl-4-isothiazolin-3-one</td>
<td>0.05 mg/m3</td>
</tr>
<tr>
<td>231-765-0</td>
<td>Hydrogen peroxide</td>
<td>1.4 mg/m3</td>
</tr>
</tbody>
</table>

By using the product according to the requirements, no air pollution is to be expected.

8.2. Expose controls
   Appropriate engineering controls
   Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3. Personal protective equipment
Respiratory protection: not required
Hand protection: protective gloves of nitril-rubber or natural latex
Eye protection: protective glasses. Tightly fitting safety goggles. Face-shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
a) Appearance form: liquid product, slightly foaming when shaken
b) Colour: clear
c) Odour: characteristic
d) pH: 3.6 – 3.8
e) Melting point/freezing point: no data available.
f) Initial boiling point and boiling range: 100°C
g) Flash point: not applicable
h) Evaporation rate: no data available.
i) Flammability (solid, gas): no data available.
j) Upper/lower flammability or explosive limits: no data available.
k) Vapour pressure: no data available.
l) Vapour density: no data available.
m) Relative density: 1.003 g/ml
n) Water solubility: complete soluble/miscible
o) Partition coefficient: n-octanol/water: complete soluble/miscible in protic solvents
p) Auto-ignition temperature: no data available.
q) Decomposition temperature: no data available.
r) Viscosity: no data available.
s) Explosive properties: no data available.
t) Oxidizing properties: no data available.

9.2. Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical stability
Chemically stable under recommended conditions of use and storage.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
Strong heat, light, especially sunlight will not cause a dangerous reaction, but destroys the quality as substrate solution.
10.5. **Incompatible materials**
Heavy metal salts, peroxidases and catalases will not cause a dangerous reaction, but destroys the quality as substrate solution.

10.6. **Hazardous decomposition products**
The final decomposition product is the yellow Di-ammoniumion of Tetra-methylbenzidin, a slightly water soluble biodegradable substance not classified as hazardous.
Note: contains preservatives as stated under SPECIFIC SECTION material safety data sheet NO.1, point 3 COMPOSITION/INFORMATION ON INGREDIENTS.

11. **TOXICOLOGICAL INFORMATION**

11.1. **Information on toxicological effects**

<table>
<thead>
<tr>
<th>Component</th>
<th>valuation</th>
<th>value</th>
<th>species</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,3’,5,5’-tetramethylbenzidine</td>
<td>no information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylene diamine tetraacetate disodium salt</td>
<td>LD50 (oral)</td>
<td>2000 mg/kg</td>
<td>rat</td>
</tr>
<tr>
<td>5-chlor-2-methyl-4-isothiazolin-3-one</td>
<td>LD50 (oral)</td>
<td>3350 mg/kg</td>
<td>rat</td>
</tr>
<tr>
<td>2-methyl-4-isothiazolin-3-one</td>
<td>LD50 (oral)</td>
<td>550 mg/kg</td>
<td>rat</td>
</tr>
<tr>
<td>hydrogen peroxide</td>
<td>LD50 (oral)</td>
<td>1232 mg/kg</td>
<td>rat</td>
</tr>
<tr>
<td></td>
<td>LD50 (dermal)</td>
<td>3000 mg/kg</td>
<td>rabbit</td>
</tr>
</tbody>
</table>

Further toxicological information:
Quantitative data concerning toxicity of the product do not exist.

12. **ECOLOGICAL INFORMATION**

Only relevant for the preservatives 5-chlor-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one

12.1. **Toxicity**

<table>
<thead>
<tr>
<th>species</th>
<th>valuation</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>trout</td>
<td>LC50 (mg/l)</td>
<td>0.19</td>
</tr>
<tr>
<td>bass</td>
<td>LC50 (mg/l)</td>
<td>0.28</td>
</tr>
<tr>
<td>marine algae (Skeletonema costatum)</td>
<td>EC50 (mg/l)</td>
<td>0.003</td>
</tr>
<tr>
<td>algae (Selenastrum capricornutum)</td>
<td>EC50 (mg/l)</td>
<td>0.018</td>
</tr>
<tr>
<td>invertebrates (Daphnia magna)</td>
<td>EC50 (mg/l)</td>
<td>0.16</td>
</tr>
</tbody>
</table>

12.2. **Persistence and degradability**

<table>
<thead>
<tr>
<th>substance</th>
<th>t ½ anerobic (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-chlor-2-methyl-4-isothiazolin-3-one</td>
<td>4.8</td>
</tr>
<tr>
<td>2-methyl-4-isothiazolin-3-one</td>
<td>9.1</td>
</tr>
</tbody>
</table>

12.3. **Bio-accumulative potential**
No data available.

12.4. **Mobility in soil**
No data available.
12.5. Results of PBT and vPvB assessment
No data available.

12.6. Other adverse effects
If used properly, no ecological problems are to be expected.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Product
May not be discarded together with the normal waste. Chemicals or remaining residues have to be treated as special waste and should be discarded according to the appropriate legislation. Information can be collected from the responsible public authorities.

Contaminated packaging
Disposal according to the instructions of the public authorities. Contaminated packages have to be treated like the substance itself. Packaging, that is not contaminated, can be recycled or treated like normal house garbage.

14. TRANSPORT INFORMATION

14.1. UN number
Non-regulated, non-hazardous for transport.

14.2. UN proper shipping name
Non-regulated, non-hazardous for transport.

14.3. Transport hazard class(es)
Non-regulated, non-hazardous for transport.

14.4. Packaging group
Non-regulated, non-hazardous for transport.

14.5. Environmental hazards
No data available.

14.6. Reportable Quantity (RQ)
No data available.

14.7. Emergency Telephone Number (during transport)
CHEMTREC: 1-800-424-9300 (US and Canada)
1-703-527-3887 (International shipments)

14.8. Special precautions for user
No data available.

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

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Symbol: not applicable.
Designation: not applicable.

15.2. Chemical Safety assessment

16. OTHER INFORMATION

Text of H-code(s) and R-phrases(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>classification</th>
<th>Number</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xn</td>
<td></td>
<td>harmful</td>
</tr>
<tr>
<td>Xi</td>
<td></td>
<td>irritant</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>environmental hazard</td>
</tr>
<tr>
<td>T</td>
<td></td>
<td>toxic</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>corrosive</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td>oxidizing</td>
</tr>
</tbody>
</table>

**R**

8 Contact with combustible material may cause fire.

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

34 Causes burns.

36/37/38 Irritating to eyes, respiratory system and skin.

40 Possible risk of cancer.

43 May cause sensitization by skin contact.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**S**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

37 Wear suitable gloves.

39 Wear eye/face protection.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biomedica Medizinprodukte GmbH & Co KG shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
SPECIFIC SECTION

Material safety data sheet no.2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers

Kit component name: Sulfuric acid (H$_2$SO$_4$)
component ID: STOP
Brand: Biomedica Medizinprodukte GmbH & Co KG

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

Identified uses: FOR RESEARCH USE ONLY
NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet

Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien, Divischgasse 4
Telephone: +43/1/291 07 45
Fax: +43/1/291 07 85
E-mail: export@bmgrp.com

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture


2.2. Label elements

Labeling according Regulation (EC) No 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Hazard Pictogram</th>
<th>Signal word</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Hazard Pictogram" /></td>
<td>Warning</td>
</tr>
</tbody>
</table>

Hazard warnings:
- H 315: Causes skin irritation
- H 319: Causes severe eye irritation

Precautions:
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P330+P331 If swallowed: Rinse mouth out, do not induce vomiting.
- P 309 In case of exposure or if you feel unwell.
- P310 Call the POISONS INFORMATION CENTRE or a doctor immediately.
- P305+P351 IN CASE OF CONTACT WITH THE EYES: Rinse carefully with water for a few minutes. Remove any contact lenses if possible. Continue rinsing.
2.3. Other hazards
No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
See section 3.2

3.2. Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>Skin Corr.1B;STOT SE3; H314</td>
<td>9.81%</td>
</tr>
<tr>
<td>CAS-No. 7664-93-9</td>
<td>C, R35 S26, S30, S45</td>
<td></td>
</tr>
<tr>
<td>EC-Nr. 231-639-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDEX-Nr. 016-020-00-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>90.19%</td>
</tr>
<tr>
<td>CAS-No. 7732-18-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC-No. 231-791-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-statements and R-phrases mentioned in this section, see section 16.

4. FIRST AID MEASURES

4.1. Description of the first aid measures

General advice
Consult a physician, show this safety data sheet to the doctor in attendance.

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

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 min and consult a physician.

If swallowed
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
No data available.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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.

5.4. Further information
No data available.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2. Environmental precautions
Do not let product enter drains.

6.3. Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections
No data available.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Avoid inhalation of vapour or mist.

7.2. Conditions for safe storage, including any incompatibilities
Store in a 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 uses
No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Components with workplace parameters
No data available.

8.2. Expose controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3. Personal protective equipment
Eye/face protection
Tightly fitting safety goggles. Face-shield (8-inch minimum). 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.

Body protection
Lab coat protecting against chemicals, 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).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
a) Appearance form: liquid
b) Odour: no data available.
c) Odour Threshold: no data available.
d) pH: no data available.
e) Melting point/freezing point: no data available.
f) Initial boiling point and boiling range: no data available.
g) Flash point: no data available.
h) Evaporation rate: no data available.
i) Flammability (solid, gas): no data available.
j) Upper/lower flammability or explosive limits: no data available.
k) Vapour pressure: no data available.
l) Vapour density: no data available.
m) Relative density: no data available.
n) Water solubility: no data available.
o) Partition coefficient: n-octanol/water: no data available.
p) Auto-ignition temperature: no data available.
q) Decomposition temperature: no data available.
r) Viscosity: no data available.
s) Explosive properties: no data available.
t) Oxidizing properties: no data available.

9.2. Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity
No data available.
10.2. Chemical stability  
Chemically stable under recommended conditions of use and storage.

10.3. Possibility of hazardous reactions  
No data available.

10.4. Conditions to avoid  
No data available.

10.5. Incompatible materials  
No data available.

10.6. Hazardous decomposition products  
No data available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects  

- **Acute toxicity**
  No data available.

- **Skin corrosion/irritation**
  No data available.

- **Serious eye damage/eye irritation**
  No data available.

- **Respiratory or skin sensitization**
  No data available.

- **Germ cell mutagenicity**
  No data available.

- **Carcinogenicity**
  IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Sulfuric acid)

- **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.

**Potential health effects**

- **Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

- **Ingestion** May be harmful if swallowed. Causes burns.

- **Skin** May be harmful if absorbed through skin. Causes skin burns.

- **Eyes** May be harmful in contact with eyes. Causes eye burns.

**Additional information**
No data available.

12. ECOLOGICAL INFORMATION

12.1. Toxicity  
No data available.
12.2. Persistence and degradability
No data available.

12.3. Bio-accumulative potential
No data available.

12.4. Mobility in soil
No data available.

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

12.6. Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1. UN number
Non-regulated, non-hazardous for transport.

14.2. UN proper shipping name
Non-regulated, non-hazardous for transport.

14.3. Transport hazard class(es)
Non-regulated, non-hazardous for transport.

14.4. Packaging group
Non-regulated, non-hazardous for transport.

14.5. Environmental hazards
No data available.

14.6. Reportable Quantity (RQ)
No data available.

14.7. Emergency Telephone Number (during transport)
CHEMTREC: 1-800-424-9300 (US and Canada)
1-703-527-3887 (International shipments)

14.8. Special precautions for user
No data available.
15. REGULATORY INFORMATION
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available.

15.2. Chemical safety assessment
No data available.

16. OTHER INFORMATION
Text of H-code(s) and R-phrase(s) mentioned in Section 3

<table>
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<tr>
<th>Classification</th>
<th>Number</th>
<th>description</th>
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<td>1B</td>
<td>Skin corrosion</td>
</tr>
<tr>
<td>STOT SE</td>
<td>3</td>
<td>Specific target organ toxicity - single exposure</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>Corrosive</td>
</tr>
<tr>
<td>H</td>
<td>314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>R</td>
<td>35</td>
<td>Causes severe burns</td>
</tr>
<tr>
<td>S</td>
<td>26</td>
<td>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>Never add water to this product</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</td>
</tr>
</tbody>
</table>

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biomedica Medizinprodukte GmbH & Co KG shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
SPECIFIC SECTION

Material safety data sheet no.3

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers
   Kit component name: Antibody
   Component ID: AB
   Brand: Biomedica Medizinprodukte GmbH & Co KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Identified uses: FOR RESEARCH USE ONLY
   NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet
   Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien, Divischgasse 4
   Telephone: +43/1/291 07 45
   Fax: +43/1/291 07 85
   E-mail: export@bmgrp.com

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.2. Label elements
   Labeling according Regulation (EC) No 1272/2008 [CLP]
   Pictogram none
   Signal word none
   Hazard statement none
   Precautionary statement none
   Supplemental hazard statements none

2.3. Other hazards
   None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
   See section 3.2.

3.2. Mixtures
   Aqueous solution of Na₂HPO₄.7H₂O, KH₂PO₄, KCl, NaCl, sterile goat serum and Tween20.
4. FIRST AID MEASURES

4.1. Description of the first aid measures

General advice
Consult a physician, show this safety data sheet to the doctor in attendance.

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

In case of skin contact
Wash off immediately with soap and plenty of water.

In case of eye contact
Rinse thoroughly with plenty of water, also under the eyelids.

If swallowed
Never give anything by mouth to an unconscious person. Call a physician.

4.2. Most important symptoms and effects, both acute and delayed
No data available.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
No restriction; use appropriate agent for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions. Nature of decomposition products not known.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

5.4. Further information
No data available.
6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.

6.2. Methods and materials for containment and cleaning up
Soak up with inert absorbent material. Do not let product enter drains.

6.3. Reference to other sections
No data available.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
No special handling advice required.

7.2. Conditions for safe storage, including any incompatibilities
Keep in properly labeled containers; Store at 2-8°C.
VbF-Class: not applicable

7.3. Specific end uses
No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Components with workplace parameters
No data available.

8.2. Expose controls
Appropriate engineering controls
Ensure adequate ventilation, especially in confined areas.
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday

8.3. Personal protective equipment
Eye/face protection
Tightly fitting safety goggles.
Skin protection
Handle with chemical-resistance 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.
Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
a) Appearance form: liquid
b) Colour: green
c) Odour: none
Safety Data Sheet
according to Regulation (EC) No.1907/2006
released 2015/04/29

d) pH: 6.9 – 7.1

e) Melting point/freezing point: no data available.
f) Initial boiling point and boiling range: no data available.
g) Flash point: no data available.
h) Evaporation rate: no data available.
i) Flammability (solid, gas): no applicable.
j) Upper/lower flammability or explosive limits: no applicable.
k) Vapour pressure: no data available.
l) Vapour density: no data available.
m) Relative density: no data available.
n) Water solubility: complete.
o) Partition coefficient: n-octanol/water: no data available.
p) Auto-ignition temperature: no applicable.
q) Decomposition temperature: no data available.
r) Viscosity: no data available.
s) Explosive properties: not explosive.
t) Oxidizing properties: no data available.

9.2. Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity
Hazardous polymerization: will not occur.

10.2. Chemical stability
Chemically stable under recommended conditions of use and storage.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
No data available.

10.6. Hazardous decomposition products
No data available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Though complete toxicity information on AB is not available, none of its components are known to be toxic or hazardous at used concentrations. No component of this product contains levels greater than or equal to 0.1% which is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA. The product contains Tween20 (0.1%), which can produce adverse health effects in its concentrated forms.

Acute toxicity
Polyoxyethylene (20) sorbitan monolaurate:
Acute oral toxicity (LD50): 40.55 mg/kg [rat],
Ethylenediamine tetra acetic acid dipotassium salt dehydrate:
Acute oral toxicity (LD50): 2000mg/kg [rat], 2050mg/kg [mouse], 2300mg/kg [rabbit]

Skin corrosion/irritation
No data available.
Serious eye damage/eye irritation
No data available.
Respiratory or skin sensitization
No data available.
Germ cell mutagenicity
No data available.
Carcinogenicity
No data available.
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
not available

12. ECOLOGICAL INFORMATION

12.1. Toxicity
Though complete toxicity information on AB is not available, none of its components are known to be toxic or hazardous at used concentrations. No component of this product contains levels greater than or equal to 0.1% which is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.
The product contains Tween20 (0.1%), which can produce adverse health effects in its concentrated forms.

Polyoxyethylene (20) sorbitan monolaurate:
Toxicity (LC50): 350 mg/l for 24h [fish],

12.2. Persistence and degradability
No data available.

12.3. Bio-accumulative potential
No data available.

12.4. Mobility in soil
No data available.

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

12.6. Other adverse effects
No data available.
13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
   Product
   Prevent product from entering drains. Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

14.1. UN number
   Non-regulated, non-hazardous for transport.

14.2. UN proper shipping name
   Non-regulated, non-hazardous for transport.

14.3. Transport hazard class(es)
   Non-regulated, non-hazardous for transport.

14.4. Packaging group
   Non-regulated, non-hazardous for transport.

14.5. Environmental hazards
   No data available.

14.6. Reportable Quantity (RQ)
   No data available.

14.7. Emergency Telephone Number (during transport)
   CHEMTREC: 1-800-424-9300 (US and Canada)
   1-703-527-3887 (International shipments)

14.8. Special precautions for user
   No data available.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS
CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION, AND LIABILITY ACT): Not Applicable
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): Not listed

INTERNATIONAL REGULATIONS
There are no hazardous ingredients in an amount that requires identification and labeling according to European Community Directives.
EUROPEAN UNION’S REACH (REGISTRATION, EVALUATION, AND AUTHORIZATION OF CHEMICALS):
This product meets the definition of a preparation. The aggregate volume of each non-exempt substance in this product does not exceed the 1 metric ton per year threshold. Therefore, registration is not required.
This safety data sheet has been prepared to comply with the requirements of Annex II, European Community Regulation No. 1907/2006 (REACH) and ANSI Z400.1-2004 guidelines.
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available.

15.2. Chemical safety assessment
No data available.

16. OTHER INFORMATION
Text of H-code(s) and R-phrases(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>36</td>
<td>Wear suitable protective clothing.</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>Wear suitable gloves.</td>
</tr>
</tbody>
</table>

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biomedica Medizinprodukte GmbH & Co KG shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers
   Kit component name: Conjugate
   component ID: CONJ
   Brand: Biomedica Medizinprodukte GmbH & Co KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Identified uses: FOR RESEARCH USE ONLY
   NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet
   Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien,
   Divischgasse 4
   Telephone: +43/1/291 07 45
   Fax: +43/1/291 07 85
   E-mail: export@bmgrp.com

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.2. Label elements
   Labeling according Regulation (EC) No 1272/2008 [CLP]
   Pictogram: No data available.
   Signal word: No data available.
   Hazard statement: No data available.
   Precautionary statement: No data available.
   Supplemental hazard statements: No data available.

2.3. Other hazards
   No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
   See section 3.2

3.2. Mixtures
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<th>Component</th>
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<td>Proprietary formulation; no hazardous components above 1% or carcinogens above 0.1%</td>
<td>Not classified</td>
<td>100%</td>
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<td></td>
</tr>
<tr>
<td>EINECS -No. No data available.</td>
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<td></td>
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</table>
Tris(hydroxymethyl)-aminomethane MW: $\text{NH}_2\text{C(CH}_2\text{OH)}_3$

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<tr>
<th>CAS-No.</th>
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<tr>
<td>77-86-1</td>
<td>201-064-4</td>
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Tris(hydroxymethyl)-aminomethane hydrochlorid MW: $\text{NH}_2\text{C(CH}_2\text{OH)}_3 \cdot \text{HCl}$

<table>
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<tr>
<th>CAS-No.</th>
<th>EINECS-No.</th>
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<tr>
<td>1185-53-1</td>
<td>214-684-5</td>
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Albumine, from bovine serum

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<td>9048-46-8</td>
<td>232-936-2</td>
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Proclin 150

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<th>R2/21/22-34-43</th>
<th>R51/53</th>
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<tr>
<td>55965-84-9</td>
<td>613-167-00-5</td>
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Phenol

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<th>CAS-No.</th>
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Gentamycin sulfate

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<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
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<td>215-778-9</td>
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For the full text of the H-statements and R-phrases mentioned in this section, see section 16.

4. FIRST AID MEASURES

4.1. Description of the first aid measures

General advice
Consult a physician, show this safety data sheet to the doctor in attendance.

If inhaled
Remove victim from the origin of exposure to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Contact a physician.

In case of skin contact
Avoid contact with skin. Remove contaminated clothes, wash immediately with plenty of water.

In case of eye contact
Avoid contact with eyes. Flush eyes immediately with plenty of water for 15 minutes.

If swallowed
After ingestion rinse mouth several times with plenty of water, give extensive water for drinking, contact a physician.

4.2. Most important symptoms and effects, both acute and delayed
No data available.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media
Suitable extinguishing media
In case of fire use water spray (fog), foam or dry powder. Use in accordance to the surroundings.
5.2. Special hazards arising from the substance or mixture
The substance may be combustible at high temperature. Combustion products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂ …), halogenated compounds, hydrogen bromide gas.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

5.4. Further information
No data available.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Avoid contact with the preparation. Don’t inhale vapours or atomized spray. Assure adequate air ventilation.

6.2. Environmental precautions
Use appropriate tools to put the spilled substances in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

6.3. Methods and materials for containment and cleaning up
Absorb with liquid absorbing material (sand, diatomite, universal binders). Forward to disposal. Clean affected area with plenty of water.

6.4. Reference to other sections
No data available.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Refer to SPECIFIC SECTION material safety data sheet NO. 3, point 8 EXPOSURE CONTROLS/PERSONAL PROTECTION for recommended precautionary measures when handling CONJ.

7.2. Conditions for safe storage, including any incompatibilities
Store refrigerated 2-8°C.

7.3. Specific end uses
No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Components with workplace parameters
OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200): None
Exposure Limits:
  OSHA PEL: none established.
  ACGIH TLV: none established.
ENGINEERING CONTROLS: Not respirable as a liquid.
8.2. Expose controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3. Personal protective equipment
Eye/face protection
Safety goggles or glasses with side shields.
Skin protection
Wear a lab coat. Change contaminated clothes immediately. After handling wash hands with soap and water.
Respiratory protection
Avoid inhaling vapour and spray fog. Breathing protection not necessary.
General hygiene controls
Practice good chemical hygiene when handling.
Avoid contact with eyes, skin and clothing.
Do not ingest material.
Safety shower and eyewash station available near location of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
a) Appearance form: clear, red liquid
b) Odour: characteristic
c) Physical state: liquid
d) pH: 7.1 ± 0.1
e) Melting point/freezing point: no data available.
f) Initial boiling point and boiling range: no data available.
g) Flash point: no data available.
h) Evaporation rate: no data available.
i) Flammability (solid, gas): no data available.
j) Upper/lower flammability or explosive limits: no data available.
k) Vapour pressure: no data available.
l) Vapour density: no data available.
m) Relative density: no data available.
n) Water solubility: soluble
o) Partition coefficient: n-octanol/water: no data available.
p) Auto-ignition temperature: no data available.
q) Decomposition temperature: no data available.
r) Viscosity: no data available.
s) Explosive properties: no data available.
t) Oxidizing properties: no data available.

9.2. Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity
Reactive with oxidizing agents.

10.2. Chemical stability
Chemically stable under recommended conditions of use and storage.
10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
Excess heat and incompatible materials.
The substance is sensitive to light

10.5. Incompatible materials
No data available.

10.6. Hazardous decomposition products
No data available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Though complete toxicity information on CONJ is not available, none of its components are known to be toxic or hazardous at used concentrations. No component of this product contains levels greater than or equal to 0.1% which is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA. The product contains 5-bromo-5-nitro-1,3-dioxane (0.2%), which can produce adverse health effects in its concentrated forms.

Acute toxicity
No data available.

Skin corrosion/irritation
No data available.

Serious eye damage/eye irritation
No data available.

Respiratory or skin sensitization
No data available.

Germ cell mutagenicity
No data available.

Carcinogenicity
No component of this product contains levels greater than or equal to 0.1% which is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

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.

Potential health effects
Skin: May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: May cause mucous membrane irritation.
Inhalation: May cause respiratory tract irritation.

Additional information
May affect behavior/central nervous system (tremor, convulsions, excitement). Further dangerous properties cannot be ruled out. The preparation must be handled with the usual care for chemicals.
12. ECOLOGICAL INFORMATION

12.1. Toxicity
No data available.

12.2. Persistence and degradability
No data available.

12.3. Bio-accumulative potential
No data available.

12.4. Mobility in soil
No data available.

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

12.6. Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
The waste produced from utilizing the preparation and the unused preparation should be disposed of according to the prevailing regulations and guidelines of the agencies holding jurisdiction over the laboratory, and the regulations of each country. The disposal of liquid effluents should be carried out according to the existing local laws and to the existing local regulation governing water pollution.

14. TRANSPORT INFORMATION

14.1. UN number
Non-regulated, non-hazardous for transport.

14.2. UN proper shipping name
Non-regulated, non-hazardous for transport.

14.3. Transport hazard class(es)
Non-regulated, non-hazardous for transport.

14.4. Packaging group
Non-regulated, non-hazardous for transport.

14.5. Environmental hazards
No data available.

14.6. Reportable quantity (RQ)
No data available.

14.7. Emergency telephone number (during transport)
CHEMTREC: 1-800-424-9300 (US and Canada)
1-703-527-3887 (International shipments)
14.8. Special precautions for user
No data available.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS
CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION, AND LIABILITY ACT): not applicable.
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): not listed.

INTERNATIONAL REGULATIONS
There are no hazardous ingredients in an amount that requires identification and labeling according to European Community Directives.
EUROPEAN UNION’S REACH (REGISTRATION, EVALUATION, AND AUTHORIZATION OF CHEMICALS):
This product meets the definition of a preparation. The aggregate volume of each non-exempt substance in this product does not exceed the 1 metric ton per year threshold. Therefore, registration is not required.
This safety data sheet has been prepared to comply with the requirements of Annex II, European Community Regulation No. 1907/2006 (REACH) and ANSI Z400.1-2004 guidelines.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available.

15.2. Chemical Safety assessment
No data available.

16. OTHER INFORMATION

Text of H-code(s) and R-phrases(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>classification</th>
<th>number</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>corrosive</td>
<td></td>
</tr>
<tr>
<td>Xn</td>
<td>harmful</td>
<td></td>
</tr>
<tr>
<td>Xi</td>
<td>irritant</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>23/24/25</td>
<td>Toxic by inhalation, in contact with skin and if swallowed.</td>
</tr>
<tr>
<td></td>
<td>36/38</td>
<td>Irritating to skin.</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>Causing burns</td>
</tr>
<tr>
<td></td>
<td>68</td>
<td>Possible risk of irreversible effects.</td>
</tr>
<tr>
<td></td>
<td>42/43</td>
<td>May cause sensitisation by inhalation and skin contact.</td>
</tr>
<tr>
<td></td>
<td>48/20/21/22</td>
<td>Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</td>
</tr>
<tr>
<td>S</td>
<td>24/25</td>
<td>Avoid contact with skin and eyes.</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td>
</tr>
<tr>
<td></td>
<td>36/37/39</td>
<td>Wear suitable protective clothing, gloves and eye/face protection.</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>In case of accident or if you feel unwell, seek medical advice immediately.</td>
</tr>
</tbody>
</table>
Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biomedica Medizinprodukte GmbH & Co KG shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
SPECIFIC SECTION

Material safety data sheet no.5

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers
   Kit component name: Assay buffer
   Component ID: ASYBUF
   Brand: Biomedica Medizinprodukte GmbH & Co KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Identified uses: FOR RESEARCH USE ONLY
   NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet
   Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien, Divischgasse 4
   Telephone: +43/1/291 07 45
   Fax: +43/1/291 07 85
   E-mail: export@bmgrp.com

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
   Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
   Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

2.2. Label elements
   Labeling according Regulation (EC) No 1272/2008 [CLP]
   Pictogram none
   Signal word none
   Hazard statement none
   Precautionary statement none
   Supplemental hazard statements none

2.3. Other hazards
   No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances
   See section 3.2

3.2. Mixtures
   Aqueous solution of Na$_2$HPO$_4$.7H$_2$O, KH$_2$PO$_4$, KCl, NaCl, sterile goat serum, sterile human serum, Tween20, Lithium Heparin, EDTA and Proclin 300, Proclin 300 as preservative.
### Dangerous components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration/percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary formulation; no hazardous components above 1% or carcinogens above 0.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No. None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EINECS -No. none</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not classified</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Goat Serum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td></td>
<td>0.1%</td>
</tr>
<tr>
<td>Human Serum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Lithium Heparin</td>
<td>R22</td>
<td></td>
</tr>
<tr>
<td>S36</td>
<td></td>
<td>2U/ml</td>
</tr>
<tr>
<td>Ethylenediamine tetra acetic acid dipotassium salt dehydrate MW: C_{10}H_{14}K_{2}N_{2}O_{8} * 2H_{2}O</td>
<td>Xi</td>
<td></td>
</tr>
<tr>
<td>CAS-No.2001-94-7</td>
<td>R22/36/37/38</td>
<td>8mM</td>
</tr>
<tr>
<td>EC-No. 205-358-3</td>
<td>S26/37/39</td>
<td></td>
</tr>
<tr>
<td>Polyoxyethylene (20) sorbitan monolaurate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MW: C_{55}H_{114}O_{26}</td>
<td>S36/37</td>
<td>0.1%</td>
</tr>
<tr>
<td>CAS-No.9005-64-5</td>
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</tr>
<tr>
<td>EC-No.500-018-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proclin 300</td>
<td>R2/21/22-34-43</td>
<td>0.1%</td>
</tr>
<tr>
<td>CAS-No.55965-84-9</td>
<td>R51/53</td>
<td></td>
</tr>
<tr>
<td>EC-No. 613-167-00-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.7732-18-5</td>
<td></td>
<td>94.7%</td>
</tr>
<tr>
<td>EC-No. 231-791-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-statements and R-phrases mentioned in this section, see section 16.

### 4. FIRST AID MEASURES

#### 4.1. Description of the first aid measures

**General advice**
Consult a physician, show this safety data sheet to the doctor in attendance.

**If inhaled**
If breathed in, move person to fresh air. If not breathing, give artificial respiration.

**In case of skin contact**
Wash off immediately with soap and plenty of water.

**In case of eye contact**
Rinse thoroughly with plenty of water, also under the eyelids.

**If swallowed**
Never give anything by mouth to an unconscious person. Call a physician.

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

No data available.

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

No data available.
5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
No restriction. Use appropriate agent for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Nature of decomposition products not known.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

5.4. Further information

No data available.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Do not let product enter drains.

6.3. Reference to other sections

No data available.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

No special handling advice required.

7.2. Conditions for safe storage, including any incompatibilities

Keep in properly labeled containers.; Store at 2-8°C. VbF-Class: not applicable.

7.3. Specific end uses

No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with workplace parameters
No data available.

8.2. Expose controls

Appropriate engineering controls
Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3. Personal protective equipment

Eye/face protection
Tightly fitting safety goggles.
Skin protection
Handle with chemical-resistance 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.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
a) Appearance form: liquid
b) Colour: clear - yellowish
c) Odour: characteristic
d) pH: 6.9 – 7.1
e) Melting point/freezing point: no data available.
f) Initial boiling point and boiling range: no data available.
g) Flash point: no data available.
h) Evaporation rate: no data available.
i) Flammability (solid, gas): no applicable
j) Upper/lower flammability or explosive limits: no applicable
k) Vapour pressure: no data available.
l) Vapour density: no data available.
m) Relative density: no data available.
n) Water solubility: complete
o) Partition coefficient: n-octanol/water: no data available.
p) Auto-ignition temperature: no applicable
q) Decomposition temperature: no data available.
r) Viscosity: no data available.
s) Explosive properties: not explosive
t) Oxidizing properties: no data available.

9.2. Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity
Hazardous polymerization: will not occur.

10.2. Chemical stability
Chemically stable under recommended conditions of use and storage.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
No data available.
10.6. Hazardous decomposition products
No data available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Though complete toxicity information on ASYBUF is not available, none of its components are known to be toxic or hazardous at used concentrations. No component of this product contains levels greater than or equal to 0.1% which is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA. The product contains Tween20 (0.1%), which can produce adverse health effects in its concentrated forms.

Acute toxicity
Polyoxyethylene (20) sorbitan monolaurate:
Acute oral toxicity (LD50): 40.55 mg/kg [rat],
Ethylene diamine tetraacetic acid dipotassium salt dehydrate:
Acute oral toxicity (LD50): 2000 mg/kg [rat], 2050 mg/kg [mouse], 2300 mg/kg [rabbit]

Skin corrosion/irritation
No data available.
Serious eye damage/eye irritation
No data available.
Respiratory or skin sensitization
No data available.
Germ cell mutagenicity
No data available.
Carcinogenicity
No data available.
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
No data available.

12. ECOLOGICAL INFORMATION

12.1. Toxicity
Though complete toxicity information on ASYBUF is not available, none of its components are known to be toxic or hazardous at used concentrations. No component of this product contains levels greater than or equal to 0.1% which is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA. The product contains Tween20 (0.1%), which can produce adverse health effects in its concentrated forms.

Polyoxyethylene (20) sorbitan monolaurate:
Toxicity (LC50): 350 mg/l for 24h [fish],
12.2. **Persistence and degradability**
No data available.

12.3. **Bio-accumulative potential**
No data available.

12.4. **Mobility in soil**
No data available.

12.5. **Results of PBT and vPvB assessment**
No data available.

12.6. **Other adverse effects**
No data available.

13. **DISPOSAL CONSIDERATIONS**

13.1. **Waste treatment methods**
   **Product**
   Prevent product from entering drains. Dispose of in accordance with local regulations.

14. **TRANSPORT INFORMATION**

14.1. **UN number**
   Non-regulated, non-hazardous for transport.

14.2. **UN proper shipping name**
   Non-regulated, non-hazardous for transport.

14.3. **Transport hazard class(es)**
   Non-regulated, non-hazardous for transport.

14.4. **Packaging group**
   Non-regulated, non-hazardous for transport.

14.5. **Environmental hazards**
   No data available.

14.6. **Reportable Quantity (RQ)**
   No data available.

14.7. **Emergency Telephone Number (during transport)**
   CHEMTREC: 1-800-424-9300 (US and Canada)
   1-703-527-3887 (International shipments)

14.8. **Special precautions for user**
   No data available.
15. REGULATORY INFORMATION

US FEDERAL REGULATIONS
CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION, AND LIABILITY ACT): not applicable.
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): not listed.

INTERNATIONAL REGULATIONS
There are no hazardous ingredients in an amount that requires identification and labeling according to European Community Directives.
EUROPEAN UNION’S REACH (REGISTRATION, EVALUATION, AND AUTHORIZATION OF CHEMICALS):
This product meets the definition of a preparation. The aggregate volume of each non-exempt substance in this product does not exceed the 1 metric ton per year threshold. Therefore, registration is not required.
This safety data sheet has been prepared to comply with the requirements of Annex II, European Community Regulation No. 1907/2006 (REACH) and ANSI Z400.1-2004 guidelines.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available.

15.2. Chemical safety assessment
No data available.

16. OTHER INFORMATION
Text of H-code(s) and R-phrases(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xi</td>
<td></td>
<td>Harmful</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Risk of explosion by shock, friction, fire or sources of ignition.</td>
</tr>
<tr>
<td>R</td>
<td>21</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>Causes burns.</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>May cause irritation to eyes</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>May cause irritation to respiratory</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td>May cause irritation to skin</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>May cause sensitization by inhalation.</td>
</tr>
<tr>
<td></td>
<td>51</td>
<td>Toxic to aquatic organisms.</td>
</tr>
<tr>
<td></td>
<td>53</td>
<td>May cause long-term adverse effects in the aquatic environment.</td>
</tr>
<tr>
<td>S</td>
<td>26</td>
<td>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>Wear suitable protective clothing</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>Wear suitable gloves</td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>Wear eye/face protection</td>
</tr>
</tbody>
</table>
Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biomedica Medizinprodukte GmbH & Co KG shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers
   Kit component name: Standard
   Component ID: STD
   Kit component name: Control
   Component ID: CTRL
   Brand: Biomedica Medizinprodukte GmbH & Co KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Identified uses: FOR RESEARCH USE ONLY
   NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet
   Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien,
   Divischgas 4
   Telephone: +43/1/291 07 45
   Fax: +43/1/291 07 85
   E-mail: export@bmgrp.com

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
   Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
   Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

2.2. Label elements
   Labeling according Regulation (EC) No 1272/2008 [CLP]
   The product does not need to be labeled in accordance with EC directives or respective national laws.

2.3. Other hazards
   No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances
   See section 3.2

3.2. Mixtures
   Aqueous solution of human serum with Aprotinin and Proclin 300,
   Proclin 300 as preservative.
   Aprotinin inhibits several serine proteases (prevents both intrinsic pathway of coagulation and fibrinolysis).
### Component, Classification, Percentage

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>human serum</td>
<td>-</td>
<td>98.9%</td>
</tr>
<tr>
<td>Aprotinin</td>
<td>Xn R42/43 S36</td>
<td>1%</td>
</tr>
<tr>
<td>Proclin 300</td>
<td>R2/21/22-34-43 R51/53</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

#### 4.1. Description of the first aid measures

**General advice**  
Consult a physician, show this safety data sheet to the doctor in attendance.

**If inhaled**  
Move to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

**In case of skin contact**  
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

**In case of eye contact**  
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

**If swallowed**  
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

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

No data available.

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

No data available.

### 5. FIRE-FIGHTING MEASURES

#### 5.1. Extinguishing media

**Suitable extinguishing media**  
Suitable: Use extinguishing media appropriate to surrounding fire conditions.

#### 5.2. Special hazards arising from the substance or mixture

Nature of decomposition products not known.

#### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

#### 5.4. Further information

No data available.
6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

6.2. Methods and materials for containment and cleaning up
Sweep up, place in a bag and store for waste disposal. Avoid raising dust. Wash spill site with 10% bleach and ventilate area after material pickup is complete.

6.3. Reference to other sections
No data available.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

7.2. Conditions for safe storage, including any incompatibilities
Conditions of storage: Keep tightly closed. Store at < -25°C after reconstitution.

7.3. Specific end uses
No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Components with workplace parameters
No data available.

8.2. Expose controls
ENGINEERING CONTROLS:
Safety shower and eye bath. Mechanical exhaust required.
GENERAL HYGIENE MEASURES:
Wash thoroughly after handling.

8.3. Personal protective equipment:
Respiratory protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
Hand protection: Compatible chemical-resistant gloves.
Eye protection: Chemical safety goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
- a) Appearance form: lyophilised
- b) Colour: clear - yellowish
- c) Odour: characteristic
- d) pH: no data available.
- e) Melting point/freezing point: no data available.
- f) Initial boiling point and boiling range: no data available.
g) Flash point: no data available.
h) Evaporation rate: no data available.
i) Flammability (solid, gas): no data available.
j) Upper/lower flammability or explosive limits: no data available.
k) Vapour pressure: no data available.
l) Vapour density: no data available.
m) Relative density: no data available.
n) Water solubility: no data available.
o) Partition coefficient: n-octanol/water: no data available.
p) Auto-ignition temperature: no data available.
q) Decomposition temperature: no data available.
r) Viscosity: no data available.
s) Explosive properties: no data available.
t) Oxidizing properties: no data available.

9.2. Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity
Hazardous polymerization: will not occur.

10.2. Chemical stability
Chemically stable under recommended conditions of use and storage.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
Strong oxidizing agents

10.5. Incompatible materials
No data available.

10.6. Hazardous decomposition products
Nature of decomposition products not known.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Acute toxicity
No data available.

Skin corrosion/irritation
Skin contact: May cause skin irritation.
Skin absorption: May be harmful if absorbed through the skin.

Serious eye damage/eye irritation
May cause eye irritation.

Respiratory or skin sensitization
Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Germ cell mutagenicity
No data available.

Carcinogenicity
No data available.

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
May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

12.1. Toxicity
No data available.

12.2. Persistence and degradability
No data available.

12.3. Bio-accumulative potential
No data available.

12.4. Mobility in soil
No data available.

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

12.6. Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Product
Contact a licensed professional waste disposal service to dispose of this material. Disposal should be made in accordance with existing disposal practices employed for infectious waste at your institution. Observe all federal, state, and local environmental regulations.

14. TRANSPORT INFORMATION

14.1. UN number
Non-regulated, non-hazardous for transport.

14.2. UN proper shipping name
Non-regulated, non-hazardous for transport.

14.3. Transport hazard class(es)
Non-regulated, non-hazardous for transport.
14.4. Packaging group
Non-regulated, non-hazardous for transport.

14.5. Environmental hazards
No data available.

14.6. Reportable Quantity (RQ)
No data available.

14.7. Emergency Telephone Number (during transport)
CHEMTREC: 1-800-424-9300 (US and Canada)
1-703-527-3887 (International shipments)

14.8. Special precautions for user
No data available.

15. REGULATORY INFORMATION
CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES
INDICATION OF DANGER: Biohazard.
Not hazardous according to Directive 67/548/EEC.
Caution: Substance not yet fully tested (EU).
COUNTRY SPECIFIC INFORMATION
Germany
WGK: 3
Self-Classification

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available.

15.2. Chemical safety assessment
No data available.

16. OTHER INFORMATION
Text of H-code(s) and R-phrases(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>classification</th>
<th>number</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xn</td>
<td></td>
<td>harmful</td>
</tr>
<tr>
<td>R</td>
<td>2</td>
<td>Risk of explosion by shock, friction, fire or other source of ignition.</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>Causes burns.</td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>May cause sensitization by inhalation.</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>May cause sensitization by skin contact.</td>
</tr>
<tr>
<td></td>
<td>51</td>
<td>Toxic to aquatic organisms.</td>
</tr>
<tr>
<td></td>
<td>53</td>
<td>Harmful to aquatic organisms.</td>
</tr>
<tr>
<td>S</td>
<td>36</td>
<td>Wear suitable protective clothing.</td>
</tr>
</tbody>
</table>
Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biomedica Medizinprodukte GmbH & Co KG shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
SPECIFIC SECTION

Material safety data sheet no.7

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifiers
   Kit component name: Wash buffer concentrate 20x
   Component ID: WASHBUF
   Brand: Biomedica Medizinprodukte GmbH & Co KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Identified uses: FOR RESEARCH USE ONLY
   NOT FOR USE IN DIAGNOSTIC PROCEDURES

1.3. Details of the supplier of the data sheet
   Company: Biomedica Medizinprodukte GmbH & Co KG, A-1210 Wien, Divischgasse 4
   Telephone: +43/1/291 07 45
   Fax: +43/1/291 07 85
   E-mail: export@bmgrp.com

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
   Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
   Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

2.2. Label elements
   Labeling according Regulation (EC) No 1272/2008 [CLP]
   The product does not need to be labeled in accordance with EC directives or respective national laws.

2.3. Other hazards
   No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances
   See section 3.2

3.2. Mixtures
   Aqueous solution of Na₂HPO₄·7H₂O, KH₂PO₄, KCl, NaCl with Triton-X and Proclin 300, Procllin 300 as preservative

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride (MW: NaCl)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.7647-14-5 EC-No. 231-598-3</td>
<td>-</td>
<td>16%</td>
</tr>
<tr>
<td>4-(1,1,3,3-Tetramethylbutyl)phenyl-polyethylene glycol (MW: (C₂H₄O)nC₁₄H₂₂O)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1. Description of the first aid measures

General advice
Consult a physician, show this safety data sheet to the doctor in attendance.
If inhaled
Move to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
In case of skin contact
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.
In case of eye contact
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.
If swallowed
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed
Vomiting, diarrhoea, dehydration and congestion may occur in internal organs. Hypertonic salt solutions can produce inflammatory reactions in the gastrointestinal tract.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media
Suitable extinguishing media
Use extinguishing media appropriate to surrounding fire conditions.

5.2. Special hazards arising from the substance or mixture
Hydrogen, chloride gas, sodium oxides.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

5.4. Further information
No data available.
6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Avoid contact with the preparation. Do not inhale vapours or atomized spray. Be assured of adequate air ventilation.

6.2. Environmental precautions
Use appropriate tools to put the spilled substances in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

6.3. Methods and materials for containment and cleaning up
Absorb with liquid absorbing material (sand, diatomite, universal binders). Forward to disposal. Clean affected area with plenty of water.

6.4. Reference to other sections
No data available.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Refer to SPECIFIC SECTION Material Safety Data Sheet NO.3, point 8 EXPOSURE CONTROLS/PERSONAL PROTECTION for recommended precautionary measures when handling WASHBUF.

7.2. Conditions for safe storage, including any incompatibilities
Store refrigerated 2-8°C.

7.3. Specific end uses
No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Components with workplace parameters
No data available.

8.2. Expose controls
ENGINEERING CONTROLS:
Safety shower and eye bath. Mechanical exhaust required.
GENERAL HYGIENE MEASURES:
Wash thoroughly after handling.

8.3. Personal protective equipment:
Respiratory protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
Hand protection: Compatible chemical-resistant gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Eye protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
   a) Appearance form: liquid
   b) Colour: clear - yellowish
   c) Odour: characteristic
   d) pH: 7.4 ± 0.1
   e) Melting point/freezing point: no data available.
   f) Initial boiling point and boiling range: no data available.
   g) Flash point: no data available.
   h) Evaporation rate: no data available.
   i) Flammability (solid, gas): no data available.
   j) Upper/lower flammability or explosive limits: no data available.
   k) Vapour pressure: no data available.
   l) Vapour density: no data available.
   m) Relative density: no data available.
   n) Water solubility: no data available.
   o) Partition coefficient: n-octanol/water: no data available.
   p) Auto-ignition temperature: no data available.
   q) Decomposition temperature: no data available.
   r) Viscosity: no data available.
   s) Explosive properties: no data available.
   t) Oxidizing properties: no data available.

9.2. Other safety information
   No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity
   No data available.

10.2. Chemical stability
   No data available.

10.3. Possibility of hazardous reactions
   No data available.

10.4. Conditions to avoid
   No data available.

10.5. Incompatible materials
   Strong oxidizing agents.

10.6. Hazardous decomposition products
   Nature of decomposition products not known.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
   Acute toxicity
   Sodium Chloride:
   Acute oral toxicity (LD50): 3000 mg/kg [rat]
4-(1,1,3,3-Tetramethylbutyl)phenyl-polyethylene glycol:
Acute oral toxicity (LD50): 707 mg/kg [rat, female]
Acute oral toxicity (LD50): 500 mg/kg [rat, male]

**Skin corrosion/irritation**
Skin contact: May cause skin irritation.
Skin absorption: May be harmful if absorbed through the skin.

**Serious eye damage/eye irritation**
May cause eye irritation

**Respiratory or skin sensitization**
Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

**Germ cell mutagenicity**
No data available.

**Carcinogenicity**
No data available.

**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**
May be harmful if swallowed.

### 12. ECOLOGICAL INFORMATION

#### 12.1. Toxicity

Sodium chloride:
Acute toxicity (LC50): 1294.6 mg/l – 96h [Lepomis macrochirus]
Acute toxicity (LC50): 1661 mg/l – 48h [Daphnia magna]

4-(1,1,3,3-Tetramethylbutyl)phenyl-polyethylene glycol:
Acute toxicity (LC50): 8.9 mg/l – 96h [Pimephales promelas]
Acute toxicity (LC50): 26 mg/l – 48h [Daphnia magna]

#### 12.2. Persistence and degradability
No data available.

#### 12.3. Bio-accumulative potential
No data available.

#### 12.4. Mobility in soil
No data available.

#### 12.5. Results of PBT and vPvB assessment
No data available.

#### 12.6. Other adverse effects
No data available.
13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Product
Contact a licensed professional waste disposal service to dispose of this material. Disposal should be made in accordance with existing disposal practices employed for infectious waste at your institution. Observe all federal, state, and local environmental regulations.

14. TRANSPORT INFORMATION

14.1. UN number
Non-regulated, non-hazardous for transport.

14.2. UN proper shipping name
Non-regulated, non-hazardous for transport.

14.3. Transport hazard class(es)
Non-regulated, non-hazardous for transport.

14.4. Packaging group
Non-regulated, non-hazardous for transport.

14.5. Environmental hazards
No data available.

14.6. Reportable Quantity (RQ)
No data available.

14.7. Emergency Telephone Number (during transport)
CHEMTREC: 1-800-424-9300 (US and Canada)
1-703-527-3887 (International shipments)

14.8. Special precautions for user
No data available.

15. REGULATORY INFORMATION

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES
No data available.

COUNTRY SPECIFIC INFORMATION
No data available.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available.

15.2. Chemical safety assessment
No data available.
16. OTHER INFORMATION

Text of H-code(s) and R-phrases(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>classification</th>
<th>number</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xn</td>
<td></td>
<td>Harmful</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>environmental hazard.</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>Corrosive</td>
</tr>
<tr>
<td>H</td>
<td>302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td></td>
<td>318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td></td>
<td>411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>P</td>
<td>273</td>
<td>Avoid release to the environment.</td>
</tr>
<tr>
<td></td>
<td>280</td>
<td>Wear protective gloves/ eye protection/ face protection.</td>
</tr>
<tr>
<td></td>
<td>305/351/338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td>
</tr>
<tr>
<td>R</td>
<td>2</td>
<td>Risk of explosion by shock, friction, fire or other source of ignition.</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>Causes burns.</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>Risk of serious damage to eyes.</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>May cause sensitization by skin contact.</td>
</tr>
<tr>
<td></td>
<td>51/53</td>
<td>Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
</tr>
<tr>
<td>S</td>
<td>26</td>
<td>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>Wear eye/face protection.</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>Avoid release to the environment. Refer to special instructions/ Safety data sheets.</td>
</tr>
</tbody>
</table>

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