SAFETY DATA SHEET

1. Identification

Product identifier Ultravac BEF diluent for Ultravac BEF Vaccine (41461)

Other means of identification

Synonyms BEF Diluent * Ultravac BEF diluent * Websters BEF diluent

Recommended use of the chemical and restrictions on use

Recommended use Veterinary product used as Sterile diluent

Restrictions on use Not for human use

Details of manufacturer or importer

Company Name (AU) Zoetis Australia Pty Ltd

ABN 94 156 476 425

Level 6, 5 Rider Boulevard
Rhodes NSW 2138 AUSTRALIA

Tel 1800 814 883
Fax (02) 8876 0444
Email productsupport.au@zoetis.com
Emergency Phone 1800 814 883 (all hours)
Police and Fire Brigade Dial 000
If ineffective Dial Poisons Information Centre (13 1126 from anywhere in Australia)

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.

Label elements, including precautionary statements

Hazard symbol(s) None.
Signal word None.
Hazard statement(s) Not available.
Precautionary statement(s)

Prevention Observe good industrial hygiene practices.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards which do not result in classification None known.

Supplemental information Direct contact with eyes may cause temporary irritation. Saponins have little toxicity for humans when ingested but have hemolytic effects when injected intravenously.

3. Composition/information on ingredients

Mixture

<table>
<thead>
<tr>
<th>Identity of chemical ingredients</th>
<th>CAS number and other unique identifiers</th>
<th>Concentration of ingredients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium phosphate</td>
<td>7777-77-0</td>
<td>&lt;1*</td>
</tr>
<tr>
<td>Quil-A</td>
<td>66594-14-7</td>
<td>&lt;1*</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>&lt;1*</td>
</tr>
<tr>
<td>Water for injection</td>
<td>7732-18-5</td>
<td></td>
</tr>
</tbody>
</table>

Material name: Ultravac BEF diluent for Ultravac BEF Vaccine (41461)
Composition comments  *Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Description of necessary first aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
In the case of skin contact, immediately wash the skin with plenty of soap and water. In the event of accidental self injection or needle stick injury, wash the injury thoroughly with clean running water. Get medical attention immediately.

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

**Ingestion**
Rinse mouth. Call a physician or poison control centre immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

Personal protection for first-aid responders
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure
Direct contact with eyes may cause temporary irritation. Exposed individuals may experience eye tearing, redness, and discomfort.

Medical attention and special treatment
Treat symptomatically. Saponins have little toxicity for humans when ingested but have hemolytic effects when injected intravenously.

5. Fire-fighting measures

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

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire fighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk.

Hazchem code
None.

General fire hazards
No unusual fire or explosion hazards noted.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
- Keep unnecessary personnel away.
- Use personal protection recommended in Section 8 of the SDS.

Environmental precautions
Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up
- Large Spills: Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Clean surface thoroughly to remove residual contamination.
- Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

- Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling
Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapour. Avoid accidental injection. Wash thoroughly after handling. When using, do not eat, drink or smoke. Wear personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Refrigeration recommended. 2 - 8°C (36 - 46°F). Do not freeze. Store in original tightly closed container. Keep away from heat, sparks and open flame.
8. Exposure controls and personal protection

Control parameters
Follow standard monitoring procedures.

Occupational exposure limits
No exposure limits noted for ingredient(s).

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection
If contact is likely, safety glasses with side shields are recommended.

Skin protection
Wear appropriate chemical resistant gloves.

Hand protection
Wear suitable protective clothing. Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas.

Other
Wear appropriate chemical resistant gloves.

Respiratory protection
No personal respiratory protective equipment normally required. If ventilation is insufficient, suitable respiratory protection must be provided.

Thermal hazards
Not applicable.

Hygiene measures
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state
Liquid.

Form
Liquid.

Colour
Colorless to yellow.

Odour
Not available.

Odour threshold
Not available.

pH
7.2 - 7.4

Melting point/freezing point
0 °C (32 °F)

Initial boiling point and boiling range
100 °C (212 °F)

Flash point
Not available.

Evaporation rate
Not available.

Flammability (solid, gas)
Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)
Not available.

Flammability limit - upper (%)
Not available.

Explosive limit - lower ( %)
Not available.

Explosive limit – upper (%)
Not available.

Vapour pressure
Not available.

Vapour density
Not available.

Relative density
Not available.

Solubility(ies)

Solubility (water)
100 %

Partition coefficient (n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.
Viscosity
Not available.

Other physical and chemical parameters
Explosive properties
Not explosive.

Oxidising properties
Not oxidising.

10. Stability and reactivity
Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Contact with incompatible materials. Keep away from heat, sparks, flame and all other sources of ignition. Protect from sunlight. Protect from freezing.

Incompatible materials
Strong oxidising agents.

Hazardous decomposition products
No hazardous decomposition products are known. May include products of carbon, nitrogen.

11. Toxicological information

Information on possible routes of exposure

Inhalation
No adverse effects due to inhalation are expected.

Skin contact
Prolonged skin contact may cause temporary irritation.

Sodium chloride
Species: Rabbit
Severity: Mild

Eye contact
Direct contact with eyes may cause temporary irritation.

Sodium chloride
Species: Rabbit
Severity: Moderate

Ingestion
May cause discomfort if swallowed.

Symptoms related to exposure
Direct contact with eyes may cause temporary irritation. Exposed individuals may experience eye tearing, redness, and discomfort.

Acute toxicity
Not acutely toxic

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potassium phosphate (CAS 7778-77-0)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Mouse</td>
<td>1700 mg/kg</td>
</tr>
<tr>
<td><strong>Quill-A (CAS 66594-14-7)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>670 ug/kg</td>
</tr>
<tr>
<td><strong>Sodium chloride (CAS 7647-14-5)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Mouse</td>
<td>4000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>3000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Prolonged skin contact may cause temporary irritation.

Serious eye damage/irritation
Direct contact with eyes may cause temporary irritation.

Eye contact
Sodium chloride
Species: Rabbit
Severity: Moderate

Respiratory or skin sensitisation

Respiratory sensitisation
Not a respiratory sensitizer.

Skin sensitisation
This product is not expected to cause skin sensitisation.
Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity
Due to partial or complete lack of data the classification is not possible.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

Chronic effects
None known.

Other information
Saponins have little toxicity for humans when ingested but have hemolytic effects when injected intravenously.

12. Ecological information

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Avoid release to the environment.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chloride (CAS 7647-14-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 340.7 - 469.2 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Rainbow trout, donaldson trout (Oncorhynchus mykiss) 4747 - 7824 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
No data available.

Mobility in soil
No data available for this product.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods
Avoid release to the environment. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

ADG
Not regulated as dangerous goods.

RID
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not established.
15. Regulatory information

Safety, health and environmental regulations

National regulations

This Safety Data Sheet was prepared in accordance with the Australia Model Code of Practice for the preparation of safety data sheets for hazardous chemicals.

**Australia Medicines & Poisons Appendix A**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix B**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix D**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix E**
- Potassium phosphate (CAS 7778-77-0)

**Australia Medicines & Poisons Appendix F**
- Potassium phosphate (CAS 7778-77-0)

**Australia Medicines & Poisons Appendix G**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix H**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix I**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix J**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix K**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 10**
- Potassium phosphate (CAS 7778-77-0)

**Australia Medicines & Poisons Schedule 2**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 3**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 4**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 5**
- Potassium phosphate (CAS 7778-77-0)

**Australia Medicines & Poisons Schedule 6**
- Potassium phosphate (CAS 7778-77-0)

**Australia Medicines & Poisons Schedule 7**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 8**
- Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 9**
- Poisons schedule number not allocated.

**High Volume Industrial Chemicals (HVIC)**
- Water for injection (CAS 7732-18-5) 1000 - 9999 TONNES See the regulation for additional information.

**Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)**
- Not listed.

**National Pollutant Inventory (NPI) substance reporting list**
- Not listed.

**Prohibited Carcinogenic Substances**
- Not regulated.

- Not listed.

**Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)**
- Not listed.
Restricted Carcinogenic Substances
Not regulated.

International regulations
Stockholm Convention
Not applicable.
Rotterdam Convention
Not applicable.
Kyoto Protocol
Not applicable.
Montreal Protocol
Not applicable.
Basel Convention
Not applicable.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Industrial Chemicals (AICIS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date                        16-September-2016
Revision date                     19-October-2021
Further information               None known.
Disclaimer                        Zoetis Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information              This document has undergone significant changes and should be reviewed in its entirety.