

**Kit Components**

Product code	Description
<b>AL534F</b>	<b>AlphaLISA Bovine TNF Kit (5000 points)</b>

## Components:

AL534AHV	Bovine TNFAlpha Acceptor Bead
AL534BHV	Anti-Bovine TNF alpha Biotinylated Antibody
6760002	Streptavidin Donor Beads
AL000F	AlphaLISA® Immunoassay Buffer, 10X (100 mL)
AL534S	AlphaLISA BovineTNF

## 1 Identification

- **Product identifier**
- **Trade name:** Bovine TNFAlpha Acceptor Bead
- **Product number:** AL534AHV, AL534AC, AL534AF
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PerkinElmer Inc  
549 Albany St  
Boston, MA 02118
- **Information department:**  
US Technical Support  
800-762-4000
- **Emergency telephone number:**  
If inside USA, call CHEMTREC at 1-800-424-9300  
If outside USA, call CHEMTREC at 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Skin Irrit. 2      H315 Causes skin irritation.  
Eye Irrit. 2A      H319 Causes serious eye irritation.  
Skin Sens. 1      H317 May cause an allergic skin reaction.  
Aquatic Acute 2    H401 Toxic to aquatic life.  
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
- **Additional information:** For the wording of the listed H phrases refer to section 16.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07    GHS09

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
5-chloro-2-methyl-2H-isothiazol-3-one
- **Hazard statements**  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
Toxic to aquatic life.  
Toxic to aquatic life with long lasting effects.
- **Precautionary statements**  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Avoid release to the environment.  
Wear protective gloves / eye protection / face protection.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Wash contaminated clothing before reuse.

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Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 0  
Reactivity = 0

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description: Mixture of the substances listed below with nonhazardous additions.**

· **Dangerous components:**

26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	<0.1%
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### 4 First-aid measures

- **Description of first aid measures**
- **General information: Immediately remove any clothing soiled by the product.**
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing: If symptoms persist consult doctor.**
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents: Use fire fighting measures that suit the environment.**
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment: Wear self-contained respiratory protective device.**

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

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- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:		
26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	0.6 mg/m <sup>3</sup>
7778-77-0	potassium dihydrogenorthophosphate	9.6 mg/m <sup>3</sup>
· PAC-2:		
26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	6.6 mg/m <sup>3</sup>
7778-77-0	potassium dihydrogenorthophosphate	110 mg/m <sup>3</sup>
· PAC-3:		
26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	40 mg/m <sup>3</sup>
7778-77-0	potassium dihydrogenorthophosphate	630 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from food and beverages.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief or low exposure use an approved cartridge filter. In case of intensive or longer exposure use SCBA.  
Suitable respiratory protective device recommended.

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· <b>Form:</b>	Fluid
· <b>Color:</b>	According to product specification
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** N/A

· **Change in condition**

· <b>Melting point/Melting range:</b>	0 °C (32 °F)
· <b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F):** 1 g/cm<sup>3</sup> (8.345 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

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- |   |  |
|---|--|
| <b>· Solubility in / Miscibility with Water:</b>  | Not miscible or difficult to mix.          |
| <b>· Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>· Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not determined.                            |
| <b>Kinematic:</b>                                 | Not determined.                            |
| <b>· Solvent content:</b>                         |  |
| <b>Water:</b>                                     | 99.8 %                                     |
| <b>VOC content:</b>                               | 0.00 %                                     |
| <b>· Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.

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- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** N/A
- **Remark:** Toxic for fish
- **Other information:** N/A
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	<p style="text-align: center;">UN1760</p>
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	<p style="text-align: center;">1760 CORROSIVE LIQUID, N.O.S. (5-chloro-2-methyl-2H-isothiazol-3-one), ENVIRONMENTALLY HAZARDOUS CORROSIVE LIQUID, N.O.S. (5-chloro-2-methyl-2H-isothiazol-3-one)</p>
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>ADR</b></li> </ul>	<div style="display: flex; justify-content: center; align-items: center; gap: 20px;">   </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	<p style="text-align: center;">8 Corrosive substances 8</p>
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>	<div style="display: flex; justify-content: center; align-items: center; gap: 20px;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	<p style="text-align: center;">8 Corrosive substances 8</p>
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	<p style="text-align: center;">III</p>

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· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Corrosive substances
· <b>Hazard identification number (Kemler code):</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1760 CORROSIVE LIQUID, N.O.S. (5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE), 8, III, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

### · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

### · Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

### · TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

### · Hazardous Air Pollutants

None of the ingredients is listed.

### · Proposition 65

### · Chemicals known to cause cancer:

None of the ingredients is listed.

### · Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

### · Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

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**· Chemicals known to cause developmental toxicity:**
*None of the ingredients is listed.*
**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**
*None of the ingredients is listed.*
**· TLV (Threshold Limit Value established by ACGIH)**
*None of the ingredients is listed.*
**· NIOSH-Ca (National Institute for Occupational Safety and Health)**
*None of the ingredients is listed.*
**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

The information provided in this Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

**· Date of preparation / last revision** 04/16/2020 / -

**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

## 1 Identification

- **Product identifier**
- **Trade name:** Anti-Bovine TNF alpha Biotinylated Antibody
- **Product number:** AL534BHV, AL534BC, AL534BF
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PerkinElmer Inc  
549 Albany St  
Boston, MA 02118
- **Information department:**  
US Technical Support  
800-762-4000
- **Emergency telephone number:**  
If inside USA, call CHEMTREC at 1-800-424-9300  
If outside USA, call CHEMTREC at 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
*The product has been classified and is not hazardous according to the Globally Harmonized System (GHS).*

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- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 0  
Reactivity = 0

## 3 Composition/information on ingredients

- **Chemical characterization:** *Mixtures*
- **Description:** *Mixture of the substances listed below with nonhazardous additions.*
- **Dangerous components:** *Void*

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** *No special measures required.*
- **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
- **After skin contact:** *If skin irritation continues, consult a doctor.*
- **After eye contact:** *Rinse opened eye for several minutes under running water.*
- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7778-77-0	potassium dihydrogenorthophosphate	9.6 mg/m <sup>3</sup>
26628-22-8	sodium azide	0.026 mg/m <sup>3</sup>

- **PAC-2:**

7778-77-0	potassium dihydrogenorthophosphate	110 mg/m <sup>3</sup>
26628-22-8	sodium azide	0.29 mg/m <sup>3</sup>

- **PAC-3:**

7778-77-0	potassium dihydrogenorthophosphate	630 mg/m <sup>3</sup>
26628-22-8	sodium azide	5.3 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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**Trade name: Anti-Bovine TNF alpha Biotinylated Antibody**

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- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Respiratory protection:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- |   |                                    |
|---|------------------------------------|
| · <b>Information on basic physical and chemical properties</b>              |                                    |
| · <b>General Information</b>  |                                    |
| · <b>Appearance:</b>  |                                    |
| Form:   | Fluid                              |
| Color:  | According to product specification |
| · <b>Odor:</b> Characteristic   |                                    |
| · <b>Odor threshold:</b> Not determined.                                    |                                    |
| · <b>pH-value:</b> N/A  |                                    |
| · <b>Change in condition</b>  |                                    |
| Melting point/Melting range:  | Undetermined.                      |
| Boiling point/Boiling range:  | 100 °C (212 °F)                    |
| · <b>Flash point:</b> Not applicable.                                       |                                    |
| · <b>Flammability (solid, gaseous):</b> Not applicable.                     |                                    |
| · <b>Decomposition temperature:</b> Not determined.                         |                                    |
| · <b>Auto igniting:</b> Product is not selfigniting.                        |                                    |
| · <b>Danger of explosion:</b> Product does not present an explosion hazard. |                                    |
| · <b>Explosion limits:</b>  |                                    |
| Lower:  | Not determined.                    |
| Upper:  | Not determined.                    |
| · <b>Vapor pressure:</b> Not determined.                                    |                                    |
| · <b>Density:</b> Not determined.   |                                    |
| · <b>Relative density</b> Not determined.                                   |                                    |
| · <b>Vapor density</b> Not determined.                                      |                                    |

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· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	94.6 %
<b>VOC content:</b>	0.00 %
<b>Solids content:</b>	3.2 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations.  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
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None of the ingredients is listed.
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· <b>NTP (National Toxicology Program)</b>
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None of the ingredients is listed.
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· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
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None of the ingredients is listed.
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**Trade name: Anti-Bovine TNF alpha Biotinylated Antibody**

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## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** N/A
- **Other information:** N/A
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Smaller quantities can be disposed of with household waste.  
Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

· <b>UN-Number</b>	
· <b>ADR, ADN, IMDG, IATA</b>	not regulated
· <b>UN proper shipping name</b>	
· <b>ADR, ADN, IMDG, IATA</b>	not regulated
· <b>Transport hazard class(es)</b>	
· <b>ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	not regulated
· <b>Packing group</b>	
· <b>ADR, IMDG, IATA</b>	not regulated
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	not regulated

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 04/19/2019

**Trade name: Anti-Bovine TNF alpha Biotinylated Antibody**

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## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

26628-22-8	sodium azide
------------	--------------

· **Section 313 (Specific toxic chemical listings):**

26628-22-8	sodium azide
------------	--------------

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

26628-22-8	sodium azide	A4
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

The information provided in this Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

· **Date of preparation / last revision** 04/16/2020 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

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**Safety Data Sheet**  
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*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*VOC: Volatile Organic Compounds (USA, EU)*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*

US



## 1 Identification

- **Product identifier**
- **Trade name:** Streptavidin Donor Beads
- **Product number:** 6760002, 6760002B
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PerkinElmer Inc  
549 Albany St  
Boston, MA 02118
- **Information department:**  
US Technical Support  
800-762-4000
- **Emergency telephone number:**  
If inside USA, call CHEMTREC at 1-800-424-9300  
If outside USA, call CHEMTREC at 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
*The product has been classified and is not hazardous according to the Globally Harmonized System (GHS).*

---

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 0  
Reactivity = 0

## 3 Composition/information on ingredients

- **Chemical characterization:** *Mixtures*
- **Description:** *Mixture of the substances listed below with nonhazardous additions.*
- **Dangerous components:** *Void*

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** *No special measures required.*
- **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
- **After skin contact:** *If skin irritation continues, consult a doctor.*
- **After eye contact:** *Rinse opened eye for several minutes under running water.*
- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

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Trade name: Streptavidin Donor Beads

(Contd. of page 1)

- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

### · PAC-1:

7365-45-9	HEPES Free Acid	30 mg/m <sup>3</sup>
9003-53-6	POLYSTYRENE	85 mg/m <sup>3</sup>

### · PAC-2:

7365-45-9	HEPES Free Acid	330 mg/m <sup>3</sup>
9003-53-6	POLYSTYRENE	550 mg/m <sup>3</sup>

### · PAC-3:

7365-45-9	HEPES Free Acid	2,000 mg/m <sup>3</sup>
9003-53-6	POLYSTYRENE	4,700 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 03/13/2020

**Trade name: Streptavidin Donor Beads**

(Contd. of page 2)

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Respiratory protection:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Fluid
<b>Color:</b>	According to product specification
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value:** N/A
- **Change in condition**

<b>Melting point/Melting range:</b>	0 °C (32 °F)
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
- **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)
- **Density at 20 °C (68 °F):** 1 g/cm<sup>3</sup> (8.345 lbs/gal)
- **Relative density** Not determined.
- **Vapor density** Not determined.

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acc. to OSHA HCS

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Trade name: Streptavidin Donor Beads

(Contd. of page 3)

· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	98.2 %
<b>VOC content:</b>	0.00 %
<b>Solids content:</b>	0.6 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations.  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
---

9003-53-6   POLYSTYRENE	3
-------------------------	---

· <b>NTP (National Toxicology Program)</b>
--

None of the ingredients is listed.
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· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
--

None of the ingredients is listed.
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US

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 03/13/2020

Trade name: Streptavidin Donor Beads

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## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** N/A
- **Other information:** N/A
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Smaller quantities can be disposed of with household waste.  
Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

· <b>UN-Number</b>	
· <b>ADR, IMDG, IATA</b>	not regulated
· <b>UN proper shipping name</b>	
· <b>ADR, IMDG, IATA</b>	not regulated
· <b>Transport hazard class(es)</b>	
· <b>ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	not regulated
· <b>Packing group</b>	
· <b>ADR, IMDG, IATA</b>	not regulated
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	not regulated

US

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 03/13/2020

Trade name: Streptavidin Donor Beads

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## 15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

7732-18-5	Water	ACTIVE
7365-45-9	HEPES Free Acid	ACTIVE
7647-14-5	sodium chloride	ACTIVE
9003-53-6	POLYSTYRENE	ACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

The information provided in this Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

· Date of preparation / last revision 04/16/2020 / -

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 04/16/2020

Reviewed on 03/13/2020

**Trade name: Streptavidin Donor Beads**

(Contd. of page 6)

IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit

US


## 1 Identification

- **Product identifier**
- **Trade name:** AlphaLISA® Immunoassay Buffer, 10X (100 mL)
- **Product number:** AL000F
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PerkinElmer Inc  
549 Albany St  
Boston, MA 02118
- **Information department:**  
US Technical Support  
800-762-4000
- **Emergency telephone number:**  
If inside USA, call CHEMTREC at 1-800-424-9300  
If outside USA, call CHEMTREC at 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Acute Tox. 3      H331 Toxic if inhaled.  
Skin Irrit. 2      H315 Causes skin irritation.  
Eye Irrit. 2A      H319 Causes serious eye irritation.  
Skin Sens. 1      H317 May cause an allergic skin reaction.  
Aquatic Acute 1    H400 Very toxic to aquatic life.  
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.
- **Additional information:** For the wording of the listed H phrases refer to section 16.

---

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**  


GHS06    GHS07    GHS09
- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Proclin-300
- **Hazard statements**  
Toxic if inhaled.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
Very toxic to aquatic life.  
Very toxic to aquatic life with long lasting effects.
- **Precautionary statements**  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Wear protective gloves / eye protection / face protection.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

(Contd. on page 2)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 05/29/2019

**Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)**

(Contd. of page 1)

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*Wash contaminated clothing before reuse.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description: Mixture of the substances listed below with nonhazardous additions.**

· **Dangerous components:**

9002-93-1	Polyethylene glycol octylphenol ether	2.5-10%
55965-84-9	Proclin-300	<1%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**
  - Immediately remove any clothing soiled by the product.*
  - Remove breathing apparatus only after contaminated clothing have been completely removed.*
  - In case of irregular breathing or respiratory arrest provide artificial respiration.*
- **After inhalation:**
  - Supply fresh air or oxygen; call for doctor.*
  - In case of unconsciousness place patient stably in side position for transportation.*
- **After eye contact:**
  - Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.*
- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
  - **Indication of any immediate medical attention and special treatment needed** *No further relevant information available.*

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** *Use fire fighting measures that suit the environment.*
- **Special hazards arising from the substance or mixture** *No further relevant information available.*
- **Advice for firefighters**
- **Protective equipment:** *Wear self-contained respiratory protective device.*

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** *Not required.*

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 05/29/2019

**Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)**

(Contd. of page 2)

- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

7365-45-9	HEPES Free Acid	30 mg/m <sup>3</sup>
77-86-1	TRIS	18 mg/m <sup>3</sup>

· **PAC-2:**

7365-45-9	HEPES Free Acid	330 mg/m <sup>3</sup>
77-86-1	TRIS	190 mg/m <sup>3</sup>

· **PAC-3:**

7365-45-9	HEPES Free Acid	2,000 mg/m <sup>3</sup>
77-86-1	TRIS	1,200 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

(Contd. on page 4)

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# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 05/29/2019

**Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)**

(Contd. of page 3)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from food and beverages.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief or low exposure use an approved cartridge filter. In case of intensive or longer exposure use SCBA.

Suitable respiratory protective device recommended.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Fluid

**Color:** According to product specification

- **Odor:** Characteristic

- **Odor threshold:** Not determined.

- **pH-value:** N/A

- **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 100 °C (212 °F)

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 05/29/2019

**Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)**

(Contd. of page 4)

· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	85.4 %
<b>VOC content:</b>	0.00 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**
  - **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Irritating effect.
  - **Sensitization:** Sensitization possible through skin contact.
  - **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
- Toxic  
Irritant

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 05/29/2019

**Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)**

(Contd. of page 5)

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability:** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential:** No further relevant information available.

· **Mobility in soil:** No further relevant information available.

· **Ecotoxicological effects:** N/A

· **Remark:** Very toxic for fish

· **Other information:** N/A

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must be specially treated adhering to official regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA**

UN3287

· **UN proper shipping name**

· **ADR**

3287 TOXIC LIQUID, INORGANIC, N.O.S. (Proclin-300, Polyethylene glycol octylphenol ether), ENVIRONMENTALLY HAZARDOUS

· **IMDG**

TOXIC LIQUID, INORGANIC, N.O.S. (Proclin-300, Polyethylene glycol octylphenol ether), MARINE POLLUTANT

· **IATA**

TOXIC LIQUID, INORGANIC, N.O.S. (Proclin-300, Polyethylene glycol octylphenol ether)

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 05/29/2019

Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)

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· **Transport hazard class(es)**· **ADR, IMDG**

· **Class** 6.1 Toxic substances  
 · **Label** 6.1

· **IATA**

· **Class** 6.1 Toxic substances  
 · **Label** 6.1

· **Packing group**  
 · **ADR, IMDG, IATA** III

· **Environmental hazards:** Product contains environmentally hazardous substances: Proclin-300  
 · **Marine pollutant:** Symbol (fish and tree)  
 · **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Toxic substances  
 · **Hazard identification number (Kemler code):** 60  
 · **EMS Number:** F-A,S-A  
 · **Stowage Category** A  
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**  
 · **Quantity limitations** On passenger aircraft/rail: 60 L  
 On cargo aircraft only: 220 L

· **ADR**  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **IMDG**  
 · **Limited quantities (LQ)** 5L  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (PROCLIN-300, POLYETHYLENE GLYCOL OCTYLPHENOL ETHER), 6.1, III, ENVIRONMENTALLY HAZARDOUS

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# Safety Data Sheet

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Printing date 04/16/2020

Reviewed on 05/29/2019

**Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)**

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## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

7732-18-5	Water	ACTIVE
9002-93-1	Polyethylene glycol octylphenol ether	ACTIVE
7365-45-9	HEPES Free Acid	ACTIVE
75277-39-3	HEPES Sodium Salt	ACTIVE
9000-71-9	casein	ACTIVE
9004-54-0	Dextran	ACTIVE
7647-14-5	sodium chloride	ACTIVE
77-86-1	TRIS	ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

The information provided in this Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

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# Safety Data Sheet

## acc. to OSHA HCS

Printing date 04/16/2020

Reviewed on 05/29/2019

**Trade name: AlphaLISA® Immunoassay Buffer, 10X (100 mL)**

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· **Date of preparation / last revision** 04/16/2020 / -

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*Acute Tox. 3: Acute toxicity – Category 3*

*Skin Irrit. 2: Skin corrosion/irritation – Category 2*

*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*

*Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1*

US



## 1 Identification

- **Product identifier**
- **Trade name:** AlphaLISA BovineTNF
- **Product number:** AL534S
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PerkinElmer Inc  
549 Albany St  
Boston, MA 02118
- **Information department:**  
US Technical Support  
800-762-4000
- **Emergency telephone number:**  
If inside USA, call CHEMTREC at 1-800-424-9300  
If outside USA, call CHEMTREC at 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Skin Irrit. 2      H315 Causes skin irritation.  
Eye Irrit. 2A      H319 Causes serious eye irritation.  
Skin Sens. 1      H317 May cause an allergic skin reaction.  
Aquatic Acute 2    H401 Toxic to aquatic life.  
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
- **Additional information:** For the wording of the listed H phrases refer to section 16.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07    GHS09

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
5-chloro-2-methyl-2H-isothiazol-3-one
- **Hazard statements**  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
Toxic to aquatic life.  
Toxic to aquatic life with long lasting effects.
- **Precautionary statements**  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Avoid release to the environment.  
Wear protective gloves / eye protection / face protection.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Wash contaminated clothing before reuse.

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**Trade name: AlphaLISA BovineTNF**

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Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 0  
Reactivity = 0

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description: Mixture of the substances listed below with nonhazardous additions.**

· **Dangerous components:**

26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	<0.1%
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### 4 First-aid measures

- **Description of first aid measures**
- **General information: Immediately remove any clothing soiled by the product.**
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing: If symptoms persist consult doctor.**
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents: Use fire fighting measures that suit the environment.**
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment: Wear self-contained respiratory protective device.**

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

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**Trade name: AlphaLISA BovineTNF**

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- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

**· PAC-1:**

77-86-1	TRIS	18 mg/m <sup>3</sup>
7647-01-0	hydrochloric acid	1.8 ppm
26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	0.6 mg/m <sup>3</sup>

**· PAC-2:**

77-86-1	TRIS	190 mg/m <sup>3</sup>
7647-01-0	hydrochloric acid	22 ppm
26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	6.6 mg/m <sup>3</sup>

**· PAC-3:**

77-86-1	TRIS	1,200 mg/m <sup>3</sup>
7647-01-0	hydrochloric acid	100 ppm
26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	40 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from food and beverages.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

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Trade name: AlphaLISA BovineTNF

(Contd. of page 3)

· **Respiratory protection:**

*In case of brief or low exposure use an approved cartridge filter. In case of intensive or longer exposure use SCBA.*

*Suitable respiratory protective device recommended.*

· **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

· **Material of gloves**

*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*

· **Penetration time of glove material**

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Fluid
<b>Color:</b>	According to product specification
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.

· **pH-value:** N/A

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

· **Vapor pressure:** Not determined.

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Trade name: AlphaLISA BovineTNF

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· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	49.0 %
<b>VOC content:</b>	0.00 %
<b>Solids content:</b>	5.5 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant
- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>	
7647-01-0   hydrochloric acid	3

· <b>NTP (National Toxicology Program)</b>
None of the ingredients is listed.

· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
None of the ingredients is listed.

US

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Reviewed on 04/19/2019

Trade name: AlphaLISA BovineTNF

(Contd. of page 5)


## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** N/A
- **Remark:** Toxic for fish
- **Other information:** N/A
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                | UN1760  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | 1760 CORROSIVE LIQUID, N.O.S. (5-chloro-2-methyl-2H-isothiazol-3-one), ENVIRONMENTALLY HAZARDOUS<br>CORROSIVE LIQUID, N.O.S. (5-chloro-2-methyl-2H-isothiazol-3-one)  |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>ADR</b></li> </ul>                           | <div style="display: flex; align-items: center; gap: 10px;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | 8 Corrosive substances<br>8   |

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Trade name: AlphaLISA BovineTNF

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· **IMDG, IATA**

· **Class** 8 Corrosive substances  
 · **Label** 8

· **Packing group**  
 · **ADR, IMDG, IATA** III

· **Environmental hazards:**  
 · **Marine pollutant:** No  
 · **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Corrosive substances  
 · **Hazard identification number (Kemler code):** 80  
 · **EMS Number:** F-A,S-B  
 · **Stowage Category** A  
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**  
 · **Quantity limitations** On passenger aircraft/rail: 5 L  
 On cargo aircraft only: 60 L

· **ADR**  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **IMDG**  
 · **Limited quantities (LQ)** 5L  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE), 8, III, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 · Sara

· **Section 355 (extremely hazardous substances):**

7647-01-0 | hydrochloric acid

· **Section 313 (Specific toxic chemical listings):**

7647-01-0 | hydrochloric acid

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

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Reviewed on 04/19/2019

**Trade name: AlphaLISA BovineTNF**

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**· Hazardous Air Pollutants**

7647-01-0 | hydrochloric acid

**· Proposition 65**
**· Chemicals known to cause cancer:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

**· TLV (Threshold Limit Value established by ACGIH)**

7647-01-0 | hydrochloric acid

A4

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

The information provided in this Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

**· Date of preparation / last revision** 04/16/2020 / -

**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2