

08.04.2019

**Kit Components**

Product code	Description
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<b>A05411</b>	<b>TNF-alpha (pig) ELISA kit</b>
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Components:

A03411	TNF-alpha (pig) Biotin-labelled Antibody
A04410	Streptavidin Poly_HRP Tracer
A06411	TNF-alpha (pig) Standard
A07410	Poly_HRP ELISA Buffer
A08411	TNF-alpha (pig) precoated 96-well Strip Plate
A09034	HRP Substrate Solution (TMB)
A12000	Tween 20
A17000	Wash Buffer
A22410	HRP Stop Solution

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name:** TNF-alpha (pig) Biotin-labelled Antibody

**Article number:** A03411

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

### 1.3 Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

The product is not classified, according to the CLP regulation.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3 Composition/information on ingredients

### 3.2 Chemical characterisation: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:** Void

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

### 4.1 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:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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according to 1907/2006/EC, Article 31

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**Trade name:** TNF-alpha (pig) Biotin-labelled Antibody

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

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

### 5.3 Advice for firefighters

**Protective equipment:** No special measures required.

## 6 Accidental release measures

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

### 6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

### 6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** No special measures required.

**Information about fire - and explosion protection:** No special measures required.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Recommended storage temperature:** +4 °C

**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

#### Ingredients 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.

**Additional information:** The lists valid during the making were used as basis.

### 8.2 Exposure controls

#### Personal protective equipment:

#### General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

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**Trade name:** TNF-alpha (pig) Biotin-labelled Antibody

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**Respiratory protection:** Not required.

**Protection of hands:**

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

### 9.1 Information on basic physical and chemical properties

**General Information**

**Appearance:**

**Form:** Fluid  
**Colour:** Colourless  
**Odour:** Odourless  
**Odour threshold:** Not determined.

**pH-value:** Not determined.

**Change in condition**

**Melting point/freezing point:** Undetermined.  
**Initial boiling point and boiling range:** Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto-ignition temperature:** Product is not selfigniting.

**Explosive properties:** Product does not present an explosion hazard.

**Explosion limits:**

**Lower:** Not determined.  
**Upper:** Not determined.

**Vapour pressure at 20 °C:** 23 hPa

**Density:** Not determined.  
**Relative density** Not determined.  
**Vapour density** Not determined.  
**Evaporation rate** Not determined.

**Solubility in / Miscibility with water:** Fully miscible.

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**

**Dynamic:** Not determined.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Biotin-labelled Antibody

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<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Water:</b>	95.2 %
<b>Solids content:</b>	0.0 %
<b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

#### Primary irritant effect:

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

### 12.1 Toxicity

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

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

#### Additional ecological information:

##### General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

GB

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Biotin-labelled Antibody

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## 13 Disposal considerations

### 13.1 Waste treatment methods

**Recommendation** Smaller quantities can be disposed of with household waste.

#### Uncleaned packaging:

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

**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

### 14.1 UN-Number

ADR, ADN, IMDG, IATA

not regulated

### 14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

not regulated

### 14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

not regulated

### 14.4 Packing group

ADR, IMDG, IATA

not regulated

### 14.5 Environmental hazards:

Not applicable.

### 14.6 Special precautions for user

Not applicable.

### 14.7 Transport in bulk according to Annex II of Marpol

and the IBC Code

Not applicable.

UN "Model Regulation":

not regulated

## 15 Regulatory information

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

Directive 2012/18/EU

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

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

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

License is granted to make unlimited paper copies of this document for internal use only.

This Material Safety Data Sheet contains data necessary to ensure safety, health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a laboratory reagent and can be solely used by persons with dedicated education at their own risk.

This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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according to 1907/2006/EC, Article 31

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**Trade name:** TNF-alpha (pig) Biotin-labelled Antibody

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**Contact:** tech@bertin-bioreagent.com**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

**\* Data compared to the previous version altered.**

GB

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 20.11.2018

### 1 Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Trade name:** Streptavidin Poly\_HRP Tracer

**Article number:** A04410

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

#### 1.3 Details of the supplier of the safety data sheet

##### Manufacturer/Supplier:

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

### 2 Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Repr. 1A H360D May damage the unborn child.

#### 2.2 Label elements

##### Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

##### Hazard pictograms



GHS08

**Signal word** Danger

##### Hazard-determining components of labelling:

N-Methyl-2-pyrrolidone

##### Hazard statements

H360D May damage the unborn child.

##### Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

##### Additional information:

Restricted to professional users.

#### 2.3 Other hazards

##### Results of PBT and vPvB assessment

**PBT:** Not applicable.

(Contd. on page 2)

GB



# Safety data sheet

according to 1907/2006/EC, Article 31

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**Trade name:** Streptavidin Poly\_HRP Tracer

**vPvB:** Not applicable.

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## 3 Composition/information on ingredients

### 3.2 Chemical characterisation: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

#### Dangerous components:

EINECS: 212-828-1 N-Methyl-2-pyrrolidone

≥0.3-≤2.5%

⚠ Repr. 1A, H360D; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

### 4.1 Description of first aid measures

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

### 5.3 Advice for firefighters

**Protective equipment:** No special measures required.

## 6 Accidental release measures

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

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

### 6.3 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.

### 6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** Open and handle receptacle with care.

**Information about fire - and explosion protection:** Keep respiratory protective device available.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 20.11.2018

**Trade name:** Streptavidin Poly\_HRP Tracer

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## 7.2 Conditions for safe storage, including any incompatibilities

### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep container tightly sealed.

**Recommended storage temperature:** +4 °C

**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

#### Ingredients 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.

**Additional information:** The lists valid during the making were used as basis.

### 8.2 Exposure controls

#### Personal protective equipment:

##### General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

**Respiratory protection:** Not required.

**Protection of hands:**



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Appearance:

<b>Form:</b>	Fluid
<b>Colour:</b>	Red
<b>Odour:</b>	Odourless
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

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**Trade name:** Streptavidin Poly\_HRP Tracer

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**Change in condition**

<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	102 °C
<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gas):</b>	Not applicable.
<b>Decomposition temperature:</b>	Not determined.
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapour pressure:</b>	Not determined.
<b>Density at 20 °C:</b>	1.04 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour 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>Solids content:</b>	0.0 %
<b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

**10.2 Chemical stability**

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values relevant for classification:****N-Methyl-2-pyrrolidone**

Oral LD50 3,598 mg/kg (rat)

Dermal LD50 8,000 mg/kg (rabbit)

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

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**Trade name:** Streptavidin Poly\_HRP Tracer

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**Primary irritant effect:****Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)****Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Based on available data, the classification criteria are not met.**Reproductive toxicity**

May damage the unborn child.

**STOT-single exposure** Based on available data, the classification criteria are not met.**STOT-repeated exposure** Based on available data, the classification criteria are not met.**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

**12.1 Toxicity****Aquatic toxicity:****N-Methyl-2-pyrrolidone**

LC50 96h &gt;500 mg/l (Leuciscus idus)

832 mg/l (Lepomis macrochirus)

EC50 48h 4,897 mg/l (Daphnia magna)

IC50 72h &gt;500 mg/l/72h (Desmodemus subspicatus)

**12.2 Persistence and degradability** No further relevant information available.**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

**13.1 Waste treatment methods****Recommendation**

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

**European waste catalogue**

HP 10 Toxic for reproduction

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

## 14 Transport information

**14.1 UN-Number**

ADR, ADN, IMDG, IATA

not regulated

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**Trade name:** Streptavidin Poly\_HRP Tracer

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**14.2 UN proper shipping name**

ADR, ADN, IMDG, IATA

not regulated

**14.3 Transport hazard class(es)**

ADR, ADN, IMDG, IATA

Class

not regulated

**14.4 Packing group**

ADR, IMDG, IATA

not regulated

**14.5 Environmental hazards:**

Not applicable.

**14.6 Special precautions for user**

Not applicable.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

**Transport/Additional information:**

IATA

Remarks:

When sold in quantities of less than or equal to 1mL or 1g with an Excepted Quantity Code of E1, E2, E3, E4 or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.

Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity

UN "Model Regulation":

not regulated

## 15 Regulatory information

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 72

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

## 16 Other information

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The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

**Relevant phrases**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 20.11.2018

**Trade name:** Streptavidin Poly\_HRP Tracer

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H360D May damage the unborn child.

**Contact:** tech@bertin-bioreagent.com**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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

Repr. 1A: Reproductive toxicity – Category 1A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

**\* Data compared to the previous version altered.**

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

### 1 Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Trade name:** TNF-alpha (pig) Standard

**Article number:** A06411

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

#### 1.3 Details of the supplier of the safety data sheet

##### Manufacturer/Supplier:

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

### 2 Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

#### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

##### Hazard pictograms



GHS08

**Signal word** Warning

**Hazard-determining components of labelling:**

Thimerosal

##### Hazard statements

H373 May cause damage to organs through prolonged or repeated exposure.

##### Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P314 Get medical advice/attention if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Standard

(Contd. of page 1)

## 3 Composition/information on ingredients

### 3.2 Chemical characterisation: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

Thimerosal

≥0.1-&lt;0.25%

☠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ☠ STOT RE 2, H373; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

### 4.1 Description of first aid measures

**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

**5.3 Advice for firefighters**

**Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

**6.3 Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

**Information about fire - and explosion protection:** Keep respiratory protective device available.

(Contd. on page 3)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Standard

(Contd. of page 2)

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Recommended storage temperature:** +4 °C

**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

#### Ingredients 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.

**Additional information:** The lists valid during the making were used as basis.

### 8.2 Exposure controls

#### Personal protective equipment:

##### General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

##### Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

##### Protection of hands:



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Appearance:

**Form:** Solid

(Contd. on page 4)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Standard

(Contd. of page 3)

<b>Colour:</b>	According to product specification
<b>Odour:</b>	Uncharacteristic.
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not applicable.
<b>Change in condition</b>	
<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gas):</b>	Not determined.
<b>Decomposition temperature:</b>	Not determined.
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapour pressure:</b>	Not applicable.
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with water:</b>	
	Soluble.
<b>Partition coefficient: n-octanol/water:</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
<b>Solvent content:</b>	
<b>Solids content:</b>	100.0 %
<b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

(Contd. on page 5)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Standard

(Contd. of page 4)

### LD/LC50 values relevant for classification:

#### Thimerosal

Oral LD50 75 mg/kg (rat)

Dermal LD50 98 mg/kg (rat)

LC50 48h 21.2 mg/l (Oncorhynchus mykiss)

#### Primary irritant effect:

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

### 12.1 Toxicity

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

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

#### Additional ecological information:

##### General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

### 13.1 Waste treatment methods

#### Recommendation

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

#### Uncleaned packaging:

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

**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

### 14.1 UN-Number

ADR, ADN, IMDG, IATA

not regulated

### 14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

not regulated

(Contd. on page 6)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Standard

(Contd. of page 5)

**14.3 Transport hazard class(es)**

**ADR, ADN, IMDG, IATA**  
**Class**

not regulated

**14.4 Packing group****ADR, IMDG, IATA**

not regulated

**14.5 Environmental hazards:**

Not applicable.

**14.6 Special precautions for user**

Not applicable.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

**Transport/Additional information:****IATA****Remarks:**

When sold in quantities of less than or equal to 1mL or 1g with an Excepted Quantity Code of E1, E2, E3, E4 or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.

Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity

**UN "Model Regulation":**

not regulated

## 15 Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Directive 2012/18/EU****Named dangerous substances - ANNEX I** None of the ingredients is listed.**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 18**Regulation (EU) No 649/2012**

Thimerosal Annex I Part 1

Annex I Part 3

Annex V Part 2

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

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

License is granted to make unlimited paper copies of this document for internal use only.

This Material Safety Data Sheet contains data necessary to ensure safety, health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a laboratory reagent and can be solely used by persons with dedicated education at their own risk.

This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

**Relevant phrases**

H300 Fatal if swallowed.

(Contd. on page 7)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** TNF-alpha (pig) Standard

(Contd. of page 6)

H310 Fatal in contact with skin.

H330 Fatal if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

**Contact:** tech@bertin-bioreagent.com**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 1: Acute toxicity – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

**\* Data compared to the previous version altered.**

GB

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name:** Poly\_HRP ELISA Buffer

**Article number:** A07410

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**



GHS08

**Signal word** Warning

**Hazard-determining components of labelling:**

Thimerosal

**Hazard statements**

H373 May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P314 Get medical advice/attention if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

Trade name: Poly\_HRP ELISA Buffer

(Contd. of page 1)

## 3 Composition/information on ingredients

### 3.2 Chemical characterisation: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

Thimerosal

≥0.1-&lt;0.25%

☠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ☠ STOT RE 2, H373; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

### 4.1 Description of first aid measures

**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

**5.3 Advice for firefighters**

**Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

**6.3 Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

**Information about fire - and explosion protection:** Keep respiratory protective device available.

(Contd. on page 3)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** Poly\_HRP ELISA Buffer

(Contd. of page 2)

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Recommended storage temperature:** +4 °C

**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

#### Ingredients 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.

**Additional information:** The lists valid during the making were used as basis.

### 8.2 Exposure controls

#### Personal protective equipment:

##### General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

##### Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

##### Protection of hands:



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Appearance:

**Form:** Solid

(Contd. on page 4)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** Poly\_HRP ELISA Buffer

(Contd. of page 3)

<b>Colour:</b>	According to product specification
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not applicable.
<b>Change in condition</b>	
<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gas):</b>	Not determined.
<b>Decomposition temperature:</b>	Not determined.
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapour pressure:</b>	Not applicable.
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with water:</b>	
	Insoluble.
<b>Partition coefficient: n-octanol/water:</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
<b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

#### LD/LC50 values relevant for classification:

#### Thimerosal

Oral LD50 75 mg/kg (rat)

(Contd. on page 5)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** Poly\_HRP ELISA Buffer

(Contd. of page 4)

Dermal LD50 98 mg/kg (rat)

LC50 48h 21.2 mg/l (Oncorhynchus mykiss)

**Primary irritant effect:****Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)****Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Based on available data, the classification criteria are not met.**Reproductive toxicity** Based on available data, the classification criteria are not met.**STOT-single exposure** Based on available data, the classification criteria are not met.**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

**12.1 Toxicity****Aquatic toxicity:** No further relevant information available.**12.2 Persistence and degradability** No further relevant information available.**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

**13.1 Waste treatment methods****Recommendation**

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

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

## 14 Transport information

**14.1 UN-Number**

ADR, ADN, IMDG, IATA

not regulated

**14.2 UN proper shipping name**

ADR, ADN, IMDG, IATA

not regulated

**14.3 Transport hazard class(es)**

ADR, ADN, IMDG, IATA

Class

not regulated

**14.4 Packing group**

ADR, IMDG, IATA

not regulated

(Contd. on page 6)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** Poly\_HRP ELISA Buffer

(Contd. of page 5)

**14.5 Environmental hazards:** Not applicable.  
**14.6 Special precautions for user** Not applicable.  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

**Transport/Additional information:**

**IATA**

**Remarks:**

When sold in quantities of less than or equal to 1mL or 1g with an Excepted Quantity Code of E1, E2, E3, E4 or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.  
 Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity

**UN "Model Regulation":**

not regulated

## 15 Regulatory information

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

**Directive 2012/18/EU**

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 18

**Regulation (EU) No 649/2012**

Thimerosal Annex I Part 1

Annex I Part 3

Annex V Part 2

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

## 16 Other information

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This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

**Relevant phrases**

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H330 Fatal if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

**Contact:** tech@bertin-bioreagent.com

(Contd. on page 7)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 08.04.2019

**Trade name:** Poly\_HRP ELISA Buffer

(Contd. of page 6)

**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 1: Acute toxicity – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

**\* Data compared to the previous version altered.**

GB

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 04.01.2018

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name:** TNF-alpha (pig) precoated 96-well Strip Plate

**Article number:** A08411

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

### 1.3 Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

The product is not classified, according to the CLP regulation.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3 Composition/information on ingredients

### 3.2 Chemical characterisation: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:** Void

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

### 4.1 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:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 2)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 04.01.2018

**Trade name:** TNF-alpha (pig) precoated 96-well Strip Plate

(Contd. of page 1)

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

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

### 5.3 Advice for firefighters

**Protective equipment:** No special measures required.

## 6 Accidental release measures

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

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

**6.3 Methods and material for containment and cleaning up:** Pick up mechanically.

### 6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** No special measures required.

**Information about fire - and explosion protection:** No special measures required.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage:**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Recommended storage temperature:** +4 °C

**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

**Ingredients 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.

**Additional information:** The lists valid during the making were used as basis.

### 8.2 Exposure controls

**Personal protective equipment:**

**General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:** Not required.

(Contd. on page 3)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 04.01.2018

**Trade name:** TNF-alpha (pig) precoated 96-well Strip Plate

(Contd. of page 2)

**Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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:** Not required.

## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**General Information****Appearance:**

<b>Form:</b>	Solid
<b>Colour:</b>	According to product specification
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

**pH-value:** Not applicable.

**Change in condition**

<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not determined.

**Decomposition temperature:** Not determined.

**Auto-ignition temperature:** Product is not selfigniting.

**Explosive properties:** Product does not present an explosion hazard.

**Explosion limits:**

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

**Vapour pressure:** Not applicable.

<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.

**Solubility in / Miscibility with water:** Insoluble.

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**

<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.

(Contd. on page 4)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 04.01.2018

**Trade name:** TNF-alpha (pig) precoated 96-well Strip Plate

(Contd. of page 3)

**Solvent content:**

**Solids content:** 100.0 %  
**9.2 Other information** No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

#### LD/LC50 values relevant for classification:

**CAS: 7646-79-9 cobalt dichloride**

Oral LD50 80 mg/kg (rat)

#### Primary irritant effect:

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

### 12.1 Toxicity

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

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

#### Additional ecological information:

##### General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

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# Safety data sheet

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**Trade name:** TNF-alpha (pig) precoated 96-well Strip Plate

**12.6 Other adverse effects** No further relevant information available.

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## 13 Disposal considerations

### 13.1 Waste treatment methods

**Recommendation** Smaller quantities can be disposed of with household waste.

#### Uncleaned packaging:

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

## 14 Transport information

### 14.1 UN-Number

ADR, ADN, IMDG, IATA

not regulated

### 14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

not regulated

### 14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

not regulated

### 14.4 Packing group

ADR, IMDG, IATA

not regulated

### 14.5 Environmental hazards:

Not applicable.

### 14.6 Special precautions for user

Not applicable.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

UN "Model Regulation":

not regulated

## 15 Regulatory information

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

Directive 2012/18/EU

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

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

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

License is granted to make unlimited paper copies of this document for internal use only.

This Material Safety Data Sheet contains data necessary to ensure safety, health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a laboratory reagent and can be solely used by persons with dedicated education at their own risk.

This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 04.01.2018

**Trade name:** TNF-alpha (pig) precoated 96-well Strip Plate

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information. Users should conduct their own investigations to determine the suitability of the information.

**Contact:** tech@bertin-bioreagent.com**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

\* **Data compared to the previous version altered.**

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name:** HRP Substrate Solution (TMB)

**Article number:** A09034

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

### 1.3 Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

The substance is not classified, according to the CLP regulation.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3 Composition/information on ingredients

### 3.1 Chemical characterisation: Substances

**CAS No. Description**

TMB substrate

## 4 First aid measures

### 4.1 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:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 2)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Substrate Solution (TMB)

(Contd. of page 1)

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

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

### 5.3 Advice for firefighters

**Protective equipment:** No special measures required.

## 6 Accidental release measures

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

### 6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

### 6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** No special measures required.

**Information about fire - and explosion protection:** No special measures required.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Recommended storage temperature:** +4 °C

**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

**Ingredients with limit values that require monitoring at the workplace:** Not required.

**Additional information:** The lists valid during the making were used as basis.

### 8.2 Exposure controls

#### Personal protective equipment:

#### General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:** Not required.

(Contd. on page 3)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Substrate Solution (TMB)

(Contd. of page 2)

**Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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.

**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

### 9.1 Information on basic physical and chemical properties

**General Information****Appearance:**

<b>Form:</b>	Fluid
<b>Colour:</b>	Not determined.
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

**pH-value:** Not determined.

**Change in condition**

<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto-ignition temperature:** Not determined.

**Explosive properties:** Product does not present an explosion hazard.

**Explosion limits:**

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

**Vapour pressure:** Not determined.

<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.

**Solubility in / Miscibility with water:**

Fully miscible.

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

**Solids content:** 0.0 %

(Contd. on page 4)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Substrate Solution (TMB)

## 9.2 Other information

No further relevant information available.

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## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

#### Primary irritant effect:

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

### 12.1 Toxicity

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

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

#### Additional ecological information:

##### General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

### 13.1 Waste treatment methods

**Recommendation** Smaller quantities can be disposed of with household waste.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Substrate Solution (TMB)

(Contd. of page 4)

**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

**14.1 UN-Number**

ADR, ADN, IMDG, IATA

not regulated

**14.2 UN proper shipping name**

ADR, ADN, IMDG, IATA

not regulated

**14.3 Transport hazard class(es)**

ADR, ADN, IMDG, IATA

Class

not regulated

**14.4 Packing group**

ADR, IMDG, IATA

not regulated

**14.5 Environmental hazards:**

Not applicable.

**14.6 Special precautions for user**

Not applicable.

**14.7 Transport in bulk according to Annex II of Marpol****and the IBC Code**

Not applicable.

**UN "Model Regulation":**

not regulated

## 15 Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Directive 2012/18/EU****Named dangerous substances - ANNEX I** Substance is not listed.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

License is granted to make unlimited paper copies of this document for internal use only.

This Material Safety Data Sheet contains data necessary to ensure safety, health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a laboratory reagent and can be solely used by persons with dedicated education at their own risk.

This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

**Contact:** tech@bertin-bioreagent.com**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

(Contd. on page 6)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Substrate Solution (TMB)

(Contd. of page 5)

IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative

**\* Data compared to the previous version altered.**

GB



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name:** Tween 20

**Article number:** A12000

**CAS Number:**  
9005-64-5

**NLP Number:**  
500-018-3

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

The substance is not classified, according to the CLP regulation.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3 Composition/information on ingredients

### 3.1 Chemical characterisation: Substances

**CAS No. Description**

9005-64-5 Polysorbate 20

**Identification number(s)**

**NLP Number:** 500-018-3

## 4 First aid measures

### 4.1 Description of first aid measures

**General information:** No special measures required.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

(Contd. on page 2)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

**Trade name:** Tween 20

(Contd. of page 1)

**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** If symptoms persist consult doctor.**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

### 5.3 Advice for firefighters

**Protective equipment:** No special measures required.

## 6 Accidental release measures

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

### 6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

### 6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** No special measures required.**Information about fire - and explosion protection:** No special measures required.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Recommended storage temperature:** 20 °C**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

**Ingredients with limit values that require monitoring at the workplace:** Not required.**Additional information:** The lists valid during the making were used as basis.

(Contd. on page 3)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

Trade name: Tween 20

(Contd. of page 2)

**8.2 Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:** Not required.

**Protection of hands:**

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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.

**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

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

<b>Form:</b>	Highly viscous
<b>Colour:</b>	Light yellow
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

**pH-value:** Not determined.

**Change in condition**

**Melting point/freezing point:** Undetermined.

**Initial boiling point and boiling range:** Undetermined.

**Flash point:** 275 °C

**Flammability (solid, gas):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto-ignition temperature:** Not determined.

**Explosive properties:** Product does not present an explosion hazard.

**Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

**Vapour pressure:** Not determined.

**Density at 20 °C:** 1.1 g/cm<sup>3</sup>

**Relative density** Not determined.

**Vapour density** Not determined.

**Evaporation rate** Not determined.

**Solubility in / Miscibility with water:**

Fully miscible.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

Trade name: Tween 20

(Contd. of page 3)

**Partition coefficient: n-octanol/water:** Not determined.**Viscosity:****Dynamic at 20 °C:** 400 mPas**Kinematic:** Not determined.**Solids content:** 0.0 %**9.2 Other information** No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**10.3 Possibility of hazardous reactions** No dangerous reactions known.**10.4 Conditions to avoid** No further relevant information available.**10.5 Incompatible materials:** No further relevant information available.**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

**11.1 Information on toxicological effects****Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values relevant for classification:****CAS: 9005-64-5 Polysorbate 20**

Oral LD50 38,900 mg/kg (rat)

**Primary irritant effect:****Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)****Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Based on available data, the classification criteria are not met.**Reproductive toxicity** Based on available data, the classification criteria are not met.**STOT-single exposure** Based on available data, the classification criteria are not met.**STOT-repeated exposure** Based on available data, the classification criteria are not met.**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

**12.1 Toxicity****Aquatic toxicity:** No further relevant information available.**12.2 Persistence and degradability** No further relevant information available.**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

**Trade name:** Tween 20

(Contd. of page 4)

**vPvB:** Not applicable.**12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

### 13.1 Waste treatment methods

**Recommendation** Smaller quantities can be disposed of with household waste.

#### Uncleaned packaging:

**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

### 14.1 UN-Number

ADR, ADN, IMDG, IATA

not regulated

### 14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

not regulated

### 14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

not regulated

### 14.4 Packing group

ADR, IMDG, IATA

not regulated

### 14.5 Environmental hazards:

Not applicable.

### 14.6 Special precautions for user

Not applicable.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

UN "Model Regulation":

not regulated

## 15 Regulatory information

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

Directive 2012/18/EU

**Named dangerous substances - ANNEX I** Substance is not listed.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

License is granted to make unlimited paper copies of this document for internal use only.

This Material Safety Data Sheet contains data necessary to ensure safety, health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a laboratory reagent and can be solely used by persons with dedicated education at their own risk.

This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

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**Trade name:** Tween 20

(Contd. of page 5)

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

**Contact:** tech@bertin-bioreagent.com**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

**\* Data compared to the previous version altered.**

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name:** Wash Buffer

**Article number:** A17000

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

### 1.3 Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

The product is not classified, according to the CLP regulation.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3 Composition/information on ingredients

### 3.2 Chemical characterisation: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:** Void

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

### 4.1 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:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 2)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

**Trade name:** Wash Buffer

(Contd. of page 1)

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5 Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.**5.2 Special hazards arising from the substance or mixture** No further relevant information available.**5.3 Advice for firefighters****Protective equipment:** No special measures required.**6 Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures** Not required.**6.2 Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**6.4 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.

**7 Handling and storage****7.1 Precautions for safe handling** No special measures required.**Information about fire - and explosion protection:** No special measures required.**7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Recommended storage temperature:** -20 °C**7.3 Specific end use(s)** No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical facilities:** No further data; see item 7.**8.1 Control parameters****Ingredients 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.

**Additional information:** The lists valid during the making were used as basis.**8.2 Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

(Contd. on page 3)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

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**Trade name:** Wash Buffer

(Contd. of page 2)

**Respiratory protection:** Not required.

**Protection of hands:**

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

### 9.1 Information on basic physical and chemical properties

**General Information**

**Appearance:**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Odourless
<b>Odour threshold:</b>	Not determined.

**pH-value at 20 °C:** 7.4

**Change in condition**

<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	100 °C

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto-ignition temperature:** Product is not selfigniting.

**Explosive properties:** Product does not present an explosion hazard.

**Explosion limits:**

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

**Vapour pressure at 20 °C:** 23 hPa

<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.

**Solubility in / Miscibility with water:**

Fully miscible.

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**

**Dynamic:** Not determined.

(Contd. on page 4)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

Trade name: Wash Buffer

(Contd. of page 3)

<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Water:</b>	60.0 %
<b>Solids content:</b>	40.0 %
<b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

#### Primary irritant effect:

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

### 12.1 Toxicity

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

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

#### Additional ecological information:

##### General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

GB

(Contd. on page 5)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

**Trade name:** Wash Buffer

(Contd. of page 4)

## 13 Disposal considerations

### 13.1 Waste treatment methods

**Recommendation** Smaller quantities can be disposed of with household waste.

#### Uncleaned packaging:

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

**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

### 14.1 UN-Number

ADR, ADN, IMDG, IATA

not regulated

### 14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

not regulated

### 14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

not regulated

### 14.4 Packing group

ADR, IMDG, IATA

not regulated

### 14.5 Environmental hazards:

Not applicable.

### 14.6 Special precautions for user

Not applicable.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

UN "Model Regulation":

not regulated

## 15 Regulatory information

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

Directive 2012/18/EU

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

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

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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This Material Safety Data Sheet contains data necessary to ensure safety, health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a laboratory reagent and can be solely used by persons with dedicated education at their own risk.

This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 11.12.2018

**Trade name:** Wash Buffer

(Contd. of page 5)

**Contact:** tech@bertin-bioreagent.com**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

**\* Data compared to the previous version altered.**

GB

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

### 1 Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Trade name:** HRP Stop Solution

**Article number:** A22410

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

No further relevant information available.

**Application of the substance / the mixture** Laboratory reagent

#### 1.3 Details of the supplier of the safety data sheet

##### Manufacturer/Supplier:

Bertin Technologies

10 bis avenue Ampère F-78180 Montigny-le-Bx FRANCE

Tel: +33 1 39 30 60 36 - tech@bertin-bioreagent.com

**Further information obtainable from:** Technical Support of Bioreagent Department

**1.4 Emergency telephone number:** During operating hours 09 am to 05 pm (Paris Time GMT+1) : +33 139 306 036

### 2 Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

The product is not classified, according to the CLP regulation.

#### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

**Additional information:**

Safety data sheet available on request.

#### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

### 3 Composition/information on ingredients

#### 3.2 Chemical characterisation: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

CAS: 7664-93-9 sulphuric acid

≥2.5-<5%

EINECS: 231-639-5  Skin Corr. 1A, H314

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

### 4 First aid measures

#### 4.1 Description of first aid measures

**General information:** No special measures required.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

(Contd. on page 2)

GB

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Stop Solution

(Contd. of page 1)

**After skin contact:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

### 5.3 Advice for firefighters

**Protective equipment:** No special measures required.

## 6 Accidental release measures

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

### 6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

### 6.4 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.

## 7 Handling and storage

**7.1 Precautions for safe handling** No special measures required.

**Information about fire - and explosion protection:** No special measures required.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Recommended storage temperature:** +4 °C

**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

### 8.1 Control parameters

**Ingredients with limit values that require monitoring at the workplace:**

**CAS: 7664-93-9 sulphuric acid**

WEL Long-term value: 0.05\* mg/m<sup>3</sup>

\*mist: defined as thoracic fraction

(Contd. on page 3)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Stop Solution

(Contd. of page 2)

**Additional information:** The lists valid during the making were used as basis.

## 8.2 Exposure controls

### Personal protective equipment:

#### General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:** Not required.

#### Protection of hands:

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Appearance:

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Odourless
<b>Odour threshold:</b>	Not determined.

**pH-value at 20 °C:** 7

#### Change in condition

**Melting point/freezing point:** Undetermined.

**Initial boiling point and boiling range:** 100 °C

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto-ignition temperature:** Product is not selfigniting.

**Explosive properties:** Product does not present an explosion hazard.

#### Explosion limits:

**Lower:** Not determined.

**Upper:** Not determined.

**Vapour pressure at 20 °C:** 23 hPa

**Density:** Not determined.

**Relative density** Not determined.

**Vapour density** Not determined.

**Evaporation rate** Not determined.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

Trade name: HRP Stop Solution

(Contd. of page 3)

<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>	95.0 %
<b>Solids content:</b>	0.0 %
<b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

#### Primary irritant effect:

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological information

### 12.1 Toxicity

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

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

#### Additional ecological information:

##### General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 5)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Stop Solution

(Contd. of page 4)

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

### 13.1 Waste treatment methods

**Recommendation** Smaller quantities can be disposed of with household waste.

#### European waste catalogue

HP 4 Irritant - skin irritation and eye damage

#### Uncleaned packaging:

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

**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

### 14.1 UN-Number

ADR, IMDG, IATA

UN2796

### 14.2 UN proper shipping name

ADR

UN2796 SULPHURIC ACID

IMDG, IATA

SULPHURIC ACID

### 14.3 Transport hazard class(es)

ADR, IMDG, IATA



**Class**

8 Corrosive substances.

**Label**

8

### 14.4 Packing group

ADR, IMDG

II

IATA

III

### 14.5 Environmental hazards:

Not applicable.

### 14.6 Special precautions for user

Warning: Corrosive substances.

**Danger code (Kemler):**

80

**EMS Number:**

F-A,S-B

**Segregation groups**

Acids

**Stowage Category**

B

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

#### Transport/Additional information:

ADR

**Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**Transport category**

2

**Tunnel restriction code**

E

(Contd. on page 6)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.04.2019

Revision: 25.01.2018

**Trade name:** HRP Stop Solution

(Contd. of page 5)

**IMDG****Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**IATA****Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**

UN 2796 SULPHURIC ACID, 8, II

## 15 Regulatory information

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

**Directive 2012/18/EU****Named dangerous substances - ANNEX I** None of the ingredients is listed.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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This Material Safety Data Sheet contains data necessary to ensure safety, health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a laboratory reagent and can be solely used by persons with dedicated education at their own risk.

This product is designed for Research and Development use only. Not for drug for human nor veterinary or other uses. The manufacturer has no responsibility for damage caused by unsuitable use or by disrespecting the enclosed working instructions.

The above information is believed to be current and accurate; however, Bertin Technologies makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

**Relevant phrases**

H314 Causes severe skin burns and eye damage.

**Contact:** tech@bertin-bioreagent.com**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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

**\* Data compared to the previous version altered.**