SAFETY DATA SHEET
Lightning-Link® HRP

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

1.1. Product identifier

Product name
Lightning-Link® HRP

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

Identified uses
Chemical reagent

1.3. Details of the supplier of the safety data sheet

Supplier
Expedeon Ltd.
25 Norman Way
Over,
Cambridge CB24 5QE
UK: +44 (0)1223 873364
info@expedeon.com
US: 1 - 844 - 611 3656

1.4. Emergency telephone number

Emergency telephone
UK: +44 (0)1223 873364  9:00-17:00pm GMT (Mon-Fri)
US: 1 - 844 - 611 3656   8:00-17:00 PST (Mon-Fri)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards
Not Classified

Health hazards
Resp. Sens. 1 - H334

Environmental hazards
Not Classified

2.2. Label elements

Pictogram

Signal word
Danger

Hazard statements
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements
P261 Avoid breathing dust.
P284 [In case of inadequate ventilation] wear respiratory protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P501 Dispose of contents/ container in accordance with national regulations.

Contains
HORSERADISH PEROXIDASE

2.3. Other hazards
Lightning-Link® HRP

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>HORSERADISH PEROXIDASE</th>
<th>1-10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 9003-99-0</td>
<td>EC number: 232-668-6</td>
</tr>
</tbody>
</table>

Classification
Resp. Sens. 1 - H334

The full text for all hazard statements is displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

**Inhalation**
Move affected person to fresh air at once. May cause respiratory system irritation. If symptoms of irritation or sensitisation occur (shortness of breath, wheezing or laboured coughing), call a doctor.

**Ingestion**
Rinse mouth thoroughly with water. Get medical attention if any discomfort continues. Give plenty of water to drink.

**Skin contact**
Remove affected person from source of contamination. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.

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

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

**Inhalation**
May cause an asthma-like shortness of breath. May cause sensitisation or allergic reactions in sensitive individuals.

**Ingestion**
No specific symptoms known.

**Skin contact**
No specific symptoms known.

**Eye contact**
No specific symptoms known.

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

Notes for the doctor No specific recommendations. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

**Specific hazards**
No unusual fire or explosion hazards noted.

**Hazardous combustion products**
No known hazardous decomposition products.

5.3. Advice for firefighters

**Protective actions during firefighting**
No specific firefighting precautions known.
Lightning-Link® HRP

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions  For personal protection, see Section 8.

6.2. Environmental precautions

Environmental precautions  Not considered to be a significant hazard due to the small quantities used.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up  Avoid generation and spreading of dust. Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Ensure sufficient ventilation.

6.4. Reference to other sections

Reference to other sections  For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions  Avoid inhalation of dust. Avoid spilling. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions  Store at -20°C

7.3. Specific end use(s)

Specific end use(s)  The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments  No exposure limits known for ingredient(s).

8.2. Exposure controls

Protective equipment  

Appropriate engineering controls  No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.

Eye/face protection  Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.

Hand protection  No specific hand protection recommended. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

Hygiene measures  When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection  Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance  Freeze dried solid
Lightning-Link® HRP

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Light brown.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting point</td>
<td>No information required.</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>No information required.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper/lower flammability or</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>explosive limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Not available. Soluble in water.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td></td>
</tr>
<tr>
<td>Other information</td>
<td>No information required.</td>
</tr>
</tbody>
</table>

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

Reactivity: There are no known reactivity hazards associated with this product.

**10.2. Chemical stability**

Stability: Stable at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions: Not applicable.

**10.4. Conditions to avoid**

Conditions to avoid: There are no known conditions that are likely to result in a hazardous situation.

**10.5. Incompatible materials**

Materials to avoid: No specific material or group of materials is likely to react with the product to produce a hazardous situation.

**10.6. Hazardous decomposition products**
## Lightning-Link® HRP

### Hazardous decomposition products
Does not decompose when used and stored as recommended.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Toxicological effects**
May cause sensitisation or allergic reactions in sensitive individuals. Avoid inhalation of dust.

**Inhalation**
May cause sensitisation or allergic reactions in sensitive individuals.

**Ingestion**
May cause discomfort if swallowed.

**Skin contact**
Powder may irritate skin.

**Eye contact**
Particles in the eyes may cause irritation and smarting.

### SECTION 12: Ecological Information

#### Ecotoxicity
Not regarded as dangerous for the environment.

#### 12.1. Toxicity

**Toxicity**
No data available

#### 12.2. Persistence and degradability

**Persistence and degradability**
There are no data on the degradability of this product.

#### 12.3. Bioaccumulative potential

**Bioaccumulative potential**
No data available on bioaccumulation.

**Partition coefficient**
Not available.

#### 12.4. Mobility in soil

**Mobility**
The product is soluble in water.

#### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment**
This product does not contain any substances classified as PBT or vPvB.

#### 12.6. Other adverse effects

**Other adverse effects**
Not applicable.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**Disposal methods**
Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### SECTION 14: Transport information

#### Road transport notes
Not classified.

#### Rail transport notes
Not classified.

#### Sea transport notes
Not classified.

#### Air transport notes
Not classified.

#### 14.1. UN number

5/6
Lightning-Link® HRP

Not classified for transportation.

14.2. UN proper shipping name
Not classified for transportation.

14.3. Transport hazard class(es)
Not classified for transportation.

14.4. Packing group
Not classified for transportation.

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
Not classified for transportation.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

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

Guidance
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date 01/03/2018
Revision 3
Supersedes date 24/02/2017
Hazard statements in full
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.