GE Healthcare

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - Europe

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

1.1 Product identifier

Product name Anti-phosphotyrosine-HRP conjugate; part of

'ECL™ Phosphorylation Module, 25 blots'

Catalogue Number **RPN2220**

Component Number NIF2055

Not available **Product description** Product type Liquid. Other means of identification Not available.

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

Not available.

1.3 Details of the supplier of the safety data sheet

GE Healthcare UK Ltd Supplier Hours of operation Amersham Place 08.30 - 17.00

Little Chalfont Buckinghamshire HP7 9NA

England

+44 0870 606 1921

 $\textbf{Person who prepared the MSDS:} \quad msdslifesciences@ge.com$

1.4 Emergency telephone number

+49 0761 4543 0 Europe GE Healthcare Bio-Sciences GmbH

Munzinger Strasse 5 D-79111 Freiburg Germany / Deutschland

National advisory body/Poison Centre

http://www.who.int/ipcs/poisons/centre/directory/euro/en/ Europe

Classification according to Directive 1999/45/EC [DPD]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Xi; R36/37/38 Classification

Human health hazards Irritating to eyes, respiratory system and skin. See Section 16 for the full text of the R phrases or H statements declared above. See Section 11 for more detailed information on health effects and symptoms.



Article Number 25006334-1

Validation date 22 December 2011



Page: 1/9

2.2 Label elements

Hazard symbol or symbols



Indication of danger Irritant

Risk phrases R36/37/38- Irritating to eyes, respiratory system and skin.

Safety phrases Not applicable.

Hazardous ingredients

Supplemental label elements Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings

Not applicable.

Tactile warning of danger Not applicable.

2.3 Other hazards

Other hazards which do not result Not available.

in classification

SECTION 3: Composition/information on ingredients

Substance/mixture

Mixture

| | | | <u>Classification</u> | | |
|-------------------------|-------------------------------|-------|-----------------------|--|---------|
| Product/ingredient name | Identifiers | % | 67/548/EEC | Regulation (EC) No. 1272/2008 [CLP] | Туре |
| glycerol | EC: 200-289-5 CAS: 56-81-5 | 50-75 | Xi; R36/37/38 | Not classified. | [1] [2] |

See Section 16 for the full text of the R-phrases declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for

and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that

fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt

or waistband

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to

rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly

before reuse.



Article Number 25006334-1



Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a Ingestion

position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be

dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight

clothing such as a collar, tie, belt or waistband.

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to Protection of first-aiders

the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact Irritating to eyes.

Irritating to respiratory system. Inhalation

Irritating to skin. Skin contact

Irritating to mouth, throat and stomach. Ingestion

Over-exposure signs/symptoms

Eye contact Adverse symptoms may include the following:

irritation watering redness

Inhalation Adverse symptoms may include the following:

respiratory tract irritation

coughing

Adverse symptoms may include the following: Skin contact

irritation redness

No specific data. Ingestion

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been Notes to physician

ingested or inhaled.

No specific treatment. Specific treatments

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or

mixture

In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products Decomposition products may include the following materials:

carbon dioxide carbon monoxide phosphorus oxides halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-

fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No

Special protective equipment for

fire-fighters

action shall be taken involving any personal risk or without suitable training.

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level

of protection for chemical incidents.



Article Number 25006334-1

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding

areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator

when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency respondersIf specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble.

Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste

disposal container. Dispose of via a licensed waste disposal contractor.

Large spill Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent

entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent

material may pose the same hazard as the spilt product.

6.4 Reference to other sections See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

6.2 Environmental precautions

Protective measures Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes,

skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue

and can be hazardous. Do not reuse container.

Advice on general occupational

hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for

additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use

appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations Not available. **Industrial sector specific solutions** Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|-------------------------|---|
| glycerol | ACGIH TLV (United States, 2/2010). Notes: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract. TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract. |



Article Number 25006334-1

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Recommended monitoring

procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels

No DELs available

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates

this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times

when handling chemical products if a risk assessment indicates this is necessary.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and

the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this

product.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Liquid. Physical state Colourless. Colour Not available. Odour Not available. Odour threshold Not available. pН Melting point/freezing point Not available Initial boiling point and boiling Not available.

range

[Product does not sustain combustion.] Flash point

Not available **Evaporation rate** Flammability (solid, gas) Not available. **Burning time** Not applicable. Not applicable. **Burning rate** Upper/lower flammability or Not available. explosive limits

Vapour pressure

Not available. Not available. Vapour density Relative density Not available.

Solubility(ies) Easily soluble in the following materials: cold water and hot water.



Article Number 25006334-1

Validation date 22 December 2011

Page: 5/9

Partition coefficient: n-

octanol/water

Not available.

Auto-ignition temperatureNot available.Decomposition temperatureNot available.ViscosityNot available.

Explosive propertiesNon-explosive in the presence of the following materials or conditions: open flames, sparks and static

discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible

materials, organic materials, metals, acids, alkalis and moisture.

Oxidising properties Not available.

9.2 Other informationNo additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous

reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid No specific data.10.5 Incompatible materials No specific data.

10.6 Hazardous decomposition

products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------|---------|-------------|----------|
| glycerol | LD50 Oral | Rat | 12600 mg/kg | - |

Conclusion/Summary Not available.

Irritation/Corrosion

Conclusion/Summary Not available.

<u>Sensitiser</u>

Conclusion/Summary Not available.

<u>Mutagenicity</u>

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Conclusion/Summary Not available.

Teratogenicity

Conclusion/Summary Not available.

Information on the likely routes of Not available.

exposure

Potential acute health effects

InhalationIrritating to respiratory system.IngestionIrritating to mouth, throat and stomach.

Skin contactIrritating to skin.Eye contactIrritating to eyes.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation Adverse symptoms may include the following:

respiratory tract irritation

coughing

Ingestion No specific data.



Article Number Page: 6/9
25006334-1 Validation date 22 December 2011





Anti-phosphotyrosine-HRP conjugate; part of 'ECL™ Phosphorylation Module, 25 blots'

Skin contact Adverse symptoms may include the following:

irritation redness

Eye contact Adverse symptoms may include the following:

irritation watering redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects

Not available.

Potential chronic health effects

Not available.

Conclusion/Summary Not available.

GeneralNo known significant effects or critical hazards.CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.Developmental effectsNo known significant effects or critical hazards.Fertility effectsNo known significant effects or critical hazards.

Other information Not available.

SECTION 12: Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|--------------------------------------|------------------------------------|----------|
| glycerol | Acute LC50 54 to 57 ml/L Fresh water | Fish - Oncorhynchus mykiss - 0.9 g | 96 hours |

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|-----------------|------------------|
| glycerol | - | >60%; 28 day(s) | Readily |

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc Not available.

)

Mobility
Not available.

12.5 Results of PBT and vPvB assessment

PBT
Not applicable

PBT Not applicable.

vPvB Not applicable.

12.6 Other adverse effects No known significant effects or critical hazards.



Article Number 25006334-1



Page: 7/9

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal The generation of waste should be avoided or minimised wherever possible. Significant quantities of

waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and

contact with soil, waterways, drains and sewers.

Hazardous waste The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal The generation of waste should be avoided or minimised wherever possible. Waste packaging should be

recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions This material and its container must be disposed of in a safe way. Care should be taken when handling

emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways,

drains and sewers.

SECTION 14: Transport information

| | ADR/RID | ADN/ADNR | IMDG | IATA |
|-----------------------------------|----------------|----------------|----------------|----------------|
| 14.1 UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper shipping name | - | - | - | - |
| 14.3 Transport hazard class(es) | - | - | - | - |
| 14.4 Packing group | - | - | - | - |
| 14.5 Environmental hazards | No. | No. | No. | No. |
| 14.6 Special precautions for user | Not available. | Not available. | Not available. | Not available. |
| Additional information | - | - | - | - |

14.7 Transport in bulk according to Annex II of MARPOL

Not available

73/78 and the IBC Code

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.



Article Number 25006334-1



Page: 8/9

Other EU regulations

Europe inventory All components are listed or exempted.

 Black List Chemicals
 Not listed

 Priority List Chemicals
 Not listed

 Integrated pollution prevention
 Not listed

and control list (IPPC) - Air

Integrated pollution prevention and control list (IPPC) - Water

Not listed

International regulations

Chemical Weapons Convention List Schedule I Chemicals Not listed

Chemical Weapons Convention

List Schedule II Chemicals

Not listed

Chemical Weapons Convention List Schedule III Chemicals Not listed

15.2 Chemical Safety Assessment This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation (Regulation (EC) No. 1272/2008)

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification | Justification |
|-----------------|---------------|
| Not classified. | |

Full text of abbreviated H

statements

Not applicable.

Full text of classifications

[CLP/GHS]

Not applicable.

Full text of abbreviated R phrases R36/37/38- Irritating to eyes, respiratory system and skin.

Full text of classifications

[DSD/DPD]

Xi - Irritant

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Version 5

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Article Number 25006334-1

Page: 9/9