


SAFETY DATA SHEET

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

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

1.1 Product identifier

Product name	TMB Substrate; part of 'TNFα, Mouse, Biotrak™ Assay'	
Catalogue Number	RPN2718	
Component Number	NIF1669	
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

1.3 Details of the supplier of the safety data sheet

<u>Supplier</u>	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA England +44 0870 606 1921	Hours of operation 08.30 - 17.00
	Person who prepared the MSDS: msdslifesciences@ge.com	

United Kingdom (UK)	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA	1.4 Emergency telephone number 0870 606 1921
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National advisory body/Poison Centre

United Kingdom (UK)	These services are only available to health professionals. The UK National Poisons Emergency number is 0870 600 6266 (Outside the UK: +44 870 600 6266)
	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit Guy's & St Thomas' Hospital Trust Avonley Road London SE14 5ER Telephone: +44 (0)20 7771 5315 (Director), +44 (0)20 7771 5310 (Poisons information service) Emergency telephone: 0870 243 2241 Fax: +44 (0)20 7771 5309 E-mail: npis@gstt.nhs.uk Web site: http://www.medtox.org.uk



Article Number

25006505-10



Page: 1/8

Validation date 7 June 2011

Version 6

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition

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.

2.2 Label elements

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 in classification Not available.

SECTION 3: Composition/information on ingredients

Substance/mixture

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Skin contact Wash with soap and water. Get medical attention if symptoms appear.

Ingestion Do not ingest. Get medical attention if symptoms appear.

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

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact No specific data.

Inhalation No specific data.

Skin contact No specific data.

Ingestion No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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 No specific data.

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

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

For emergency responders

6.2 Environmental precautions 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 or 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. 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 (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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 Scenarios(s).

7.1 Precautions for safe handling

Protective measures

Advice on general occupational hygiene

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

Industrial sector specific solutions



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

No exposure limit value known.

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

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure 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

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 levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Clear Colorless to light blue.
Odour	Odourless.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	
Initial boiling point and boiling range	
Flash point	
Evaporation rate	Not available.
Flammability (solid, gas)	Non-flammable 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.
Burning time	



Article Number

25006505-10



9 5 2 5 0 0 6 5 0 5 1 0

Page: 4/8

Validation date 7 June 2011

Version 6

Burning rate	
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	
Vapour density	Not available.
Relative density	1.01
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	
Decomposition temperature	
Viscosity	
Explosive properties	Non-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 information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous reactions

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

Conclusion/Summary No additional remark.

Irritation/Corrosion

Conclusion/Summary Not available.

Sensitiser

Conclusion/Summary Not available.

Mutagenicity

Conclusion/Summary No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary Very low toxicity to humans or animals.

Reproductive toxicity

Conclusion/Summary No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary No known significant effects or critical hazards.

Information on the likely routes of exposure

Potential acute health effects

Inhalation No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Eye contact No known significant effects or critical hazards.



Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	No specific data.
Ingestion	No specific data.
Skin contact	No specific data.
Eye contact	No specific data.

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

Short term exposure

Potential immediate effects

Potential delayed effects

Long term exposure

Potential immediate effects

Potential delayed effects

Potential chronic health effects

Not available.

Conclusion/Summary	Very low toxicity to humans or animals.
General	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Other information

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary	Not available.
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12.2 Persistence and degradability

Conclusion/Summary	Not available.
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12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Mobility	Not available.
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12.5 Results of PBT and vPvB assessment

PBT

vPvB

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



Article Number

25006505-10



Page: 6/8

Validation date 7 June 2011

Version 6

Methods of disposal

The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste

Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal

Special precautions

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	-	Not available.	-	-
14.5 Environmental hazards				
14.6 Special precautions for user				
Additional information	-	Not available.	-	-

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

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.

Other EU regulations

Europe inventory

All components are listed or exempted.

Aerosol dispensers

15.2 Chemical Safety Assessment



Article Number

25006505-10



Page: 7/8

Validation date 7 June 2011

Version 6

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

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	Not applicable.
Full text of classifications [DSD/DPD]	Not applicable.
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Version	6

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

25006505-10



Page: 8/8

Validation date 7 June 2011

Version 6