SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Perihalan Produk: **ProSpecT Shiga Toxin Ecoli STEC Microplate Assay**
Product Description: **ProSpecT Shiga Toxin Ecoli STEC Microplate Assay**
Cat No. : R2474048

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company
Thermo Scientific Microbiology Sdn Bhd
No.6, Jalan TTC 6, Taman Teknologi Cheng,
Cheng, 75250 Melaka, Malaysia
+606 334 0975 .

Supplier
.
Oxoid Ltd.
Wade Road
Basingstoke, Hants, UK
RG24 8PW
Telephone: +44 (0) 1256 841144

E-mail address mbd-sds@thermofisher.com

Emergency Telephone Number

(603) 5122 8888
CHEMTREC Malaysia **1-800-815-308** (Malay)
CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Serious Eye Damage/Eye Irritation	Category 2 (H319)
Specific target organ toxicity - (repeated exposure)	Category 2 (H373)

Label Elements

Signal Word **Warning**

Hazard Statements

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

H319 - Causes serious eye irritation

Precautionary Statements

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P314 - Get medical advice/attention if you feel unwell

Other Hazards

Contains a known or suspected endocrine disruptor
Included in the list established in accordance with Article 59(1) for having endocrine disrupting properties

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Sulphuric Acid	7664-93-9	4.5
Triton X-100	9002-93-1	2
Ethyl alcohol	64-17-5	0.3
Thiomersal	54-64-8	0.1

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion Clean mouth with water and drink afterwards plenty of water. Immediate medical attention is required.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons
No information available.

Special hazards arising from the substance or mixture
Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Sulfur oxides.

Advice for fire-fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Use personal protective equipment as required. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing.

Environmental precautions
Should not be released into the environment.

Methods and Material for Containment and Cleaning Up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly.

Reference to Other Sections
Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling
Ensure adequate ventilation. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Conditions for Safe Storage, Including any Incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

Specific End Uses
Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Sulphuric Acid		TWA: 0.2 mg/m^3	(Vacated) TWA: 1 mg/m^3 TWA: 1 mg/m^3
Ethyl alcohol		STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m^3 TWA: 1000 ppm

			TWA: 1900 mg/m³

Component	European Union	The United Kingdom	Germany
Sulphuric Acid	-	TWA: 1.0mg/m³ 8hr	MAK 0.1 mg/m³ (inhalable)
Ethyl alcohol		TWA: 1000 ppm TWA; 1920 mg/m³ TWA WEL - STEL: 3000 ppm STEL; 5760 mg/m³ STEL	200 ppm TWA MAK; 380 mg/m³ TWA MAK
Thiomersal			Haut

Exposure Controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles
Hand Protection Protective gloves
Skin and body protection Long sleeved clothing

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance
Physical State Liquid
Odor No information available
Odor Threshold No data available
pH Not applicable

Melting Point/Range No data available
Softening Point No data available
Boiling Point/Range Not applicable
Flash Point Not applicable **Method -** No information available

Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	Not applicable	Liquid
Water Solubility	No information available	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Triton X-100	2.7
Ethyl alcohol	-0.32

Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known, based on information available.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

Conditions to Avoid

None known.

Incompatible Materials

Reducing Agent. Oxidizing agent.

Hazardous Decomposition Products

Sulfur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulphuric Acid	LD50 = 2140 mg/kg (Rat)		LC50 = 0.375 mg/L (Rat) 4 h
Triton X-100	LD50 = 1800 mg/kg (Rat)		
Ethyl alcohol	LD50 = 7060 mg/kg (Rat)		20000 ppm/10H (Rat)
Thiomersal	LD50 = 75 mg/kg (Rat)		

Chronic Toxicity

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	IARC	UK
Sulphuric Acid	Group 1	

Legend:
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans X - Listed '-' - Not Listed XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)

Sensitization No information available
Mutagenic Effects No information available
Reproductive Effects No information available
Developmental Effects No information available
Target Organs Central nervous system (CNS).

Endocrine Disruptor Information

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Triton X-100	Group III Chemical		

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects . Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Sulphuric Acid	LC50: > 500 mg/L, 96h static (Brachydanio rerio)	EC50: 29 mg/L/24h		
Triton X-100	LC50 = 8.9 mg/L 96H	EC50 = 26 mg/L 48h		
Ethyl alcohol	Fathead minnow (Pimephales promelas)	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Photobacterium phosphoreum:EC50 =

	LC50 = 14200 mg/l/96h			34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min

Persistence and degradability No information available

Component	Degradability
Triton X-100 9002-93-1 (2)	60% >28days

Bioaccumulative potential No information available

Component	log Pow	Bioconcentration factor (BCF)
Triton X-100	2.7	No data available
Ethyl alcohol	-0.32	No data available

Mobility in soil No information available.

Other adverse effects No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Other Information Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

UN-No UN2796
Hazard Class 8
Packing Group II
Proper Shipping Name SULPHURIC ACID

Road and Rail Transport

UN-No UN2796
Hazard Class 8
Packing Group II
Proper Shipping Name SULPHURIC ACID

IATA

UN-No UN2796
Hazard Class 8
Packing Group II
Proper Shipping Name BATTERY FLUID, ACID

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Sulphuric Acid	-	X	X	X	X	X	X	X	KE-32570
Triton X-100	-	X	X	X	X	X	X	X	KE-33568
Ethyl alcohol	-	X	X	X	X	X	X	X	KE-13217
Thiomersal	-	X	X	X	X		X	X	KE-13896

Note Note 1: The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sulphuric Acid				Annex I - Y34
Ethyl alcohol				Annex I - Y42
Thiomersal			X	Annex I - Y29

National Regulations

Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Revision Date	28-Mar-2023
Revision Summary	Update to CLP Format.

In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet