

# SAFETY DATA SHEET

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

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

### Product Identifier

Perihal Produk: **Porphyrim Test Agar**  
Product Description: **Porphyrim Test Agar**  
Cat No. : R01688

### 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 Remel  
12076 Santa Fe Drive Lenexa,  
KS 66215 United States  
Telephone: 1-800-255-6730  
Fax:1-800-621-8251

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

### Label Elements

### Hazard Statements

### Precautionary Statements

### Other Hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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Component	CAS No	Weight %
Water	7732-18-5	95.39
Hydrogen chloride	7647-01-0	Trace
Sodium hydroxide	1310-73-2	Trace
Vitamin B12	68-19-9	Trace
L-Glutamine	32640-56-5	Trace
Adenine (6-Aminopurine)	73-24-5	Trace
6H-Purin-6-one, 2-amino-1,7-dihydro-, monohydrochloride	635-39-2	Trace
p-Aminobenzoic acid	150-13-0	Trace
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-4-methyl-5-(4,6,6-trihydroxy-3,5-dioxo-4,6-diphosphahex-1-yl)-, chloride, P,P'-dioxide	154-87-0	Trace
Iron(III) nitrate nonahydrate	7782-61-8	Trace
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl-chloride, monohydrochloride	67-03-8	Trace
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium, inner salt	53-84-9	Trace
Agar	9002-18-0	1.07
5-Amino-3-oxopentanoic acid	5451-09-2	Trace
Magnesium sulfate	7487-88-9	Trace
Hemoglobins	9008-02-0	1
Glucose	50-99-7	Trace
Cysteine hydrochloride, L-(+)-, monohydrate	7048-04-6	Trace
Sodium chloride	7647-14-5	0.24
Dipotassium phosphate	7758-11-4	0.33
Starch	9005-25-8	Trace
Propanoic acid, 2-oxo-, sodium salt	113-24-6	Trace
Yeast, ext.	8013-01-2	0.42
Caseins, hydrolyzates	65072-00-6	0.28
Gelatins, hydrolyzates	68410-45-7	0.28
Peptones	73049-73-7	0.56

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

#### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

#### Ingestion

Clean mouth with water and drink afterwards plenty of water.

#### Inhalation

Remove to fresh air.

#### Self-Protection of the First Aider

No special precautions required.

### Most important symptoms and effects, both acute and delayed

No information available.

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

#### Notes to Physician

Treat symptomatically.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **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**

None under normal use conditions.

### 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

Ensure adequate ventilation.

### Environmental precautions

See Section 12 for additional Ecological Information.

### Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal.

### 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.

### 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

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Component	Malaysia	ACGIH TLV	OSHA PEL
Hydrogen chloride		Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup> (Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 7 mg/m <sup>3</sup>
Sodium hydroxide		Ceiling: 2 mg/m <sup>3</sup>	(Vacated) Ceiling: 2 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>
Vitamin B12			(Vacated) TWA: 5 mg/m <sup>3</sup>
Iron(III) nitrate nonahydrate		TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 1 mg/m <sup>3</sup>
Starch		TWA: 10 mg/m <sup>3</sup>	(Vacated) TWA: 15 mg/m <sup>3</sup> (Vacated) TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>

Component	European Union	The United Kingdom	Germany
Hydrogen chloride	TWA: 5 ppm (8h) TWA: 8 mg/m <sup>3</sup> (8h) STEL: 10 ppm (15min) STEL: 15 mg/m <sup>3</sup> (15min)	STEL: 5 ppm 15 min STEL: 8 mg/m <sup>3</sup> 15 min TWA: 1 ppm 8 hr TWA: 2 mg/m <sup>3</sup> 8 hr	TWA: 2 ppm (8 Stunden). AGW - exposure factor 2 TWA: 3 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2 TWA: 2 ppm (8 Stunden). MAK TWA: 3.0 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 4 ppm Höhepunkt: 6 mg/m <sup>3</sup>
Sodium hydroxide		2 mg/m <sup>3</sup> STEL	2 mg/m <sup>3</sup> TWA (inhalable fraction)
Vitamin B12		STEL: 0.3 mg/m <sup>3</sup> 15 min TWA: 0.1 mg/m <sup>3</sup> 8 hr Resp. Sens. STEL: 15 mg/m <sup>3</sup> 15 min TWA: 5 mg/m <sup>3</sup> 8 hr Skin	TWA: 2 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 2 mg/m <sup>3</sup> Haut
Iron(III) nitrate nonahydrate		STEL: 2 mg/m <sup>3</sup> 15 min TWA: 1 mg/m <sup>3</sup> 8 hr	
Starch		STEL: 30 mg/m <sup>3</sup> 15 min STEL: 12 mg/m <sup>3</sup> 15 min TWA: 10 mg/m <sup>3</sup> 8 hr TWA: 4 mg/m <sup>3</sup> 8 hr	

## Exposure Controls

### Engineering Measures

None under normal use conditions.

## Personal protective equipment

### Eye Protection

Wear safety glasses with side shields (or 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 compatibility, 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

No protective equipment is needed under normal use conditions

### Recommended Filter type:

Particle filter

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## 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

Solid Gel Consistency

#### Odor

No information available

#### Odor Threshold

No data available

#### pH

No information available

#### Melting Point/Range

No data available

#### Softening Point

No data available

#### Boiling Point/Range

No information available

#### Flash Point

No information available

Method - No information available

#### Evaporation Rate

No data available

#### Flammability (solid,gas)

No information available

#### 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

No data available

#### Water Solubility

No information available

#### Solubility in other solvents

No information available

### Partition Coefficient (n-octanol/water)

#### Component

#### log Pow

Vitamin B12

3.57

Adenine (6-Aminopurine)

-0.1

Thiazolium,

<-3.04

3-[(4-amino-2-methyl-5-pyrimidinyl)met  
hyl]-5-(2-hydroxyethyl)-4-methyl-  
chloride, monohydrochloride

Adenosine 5'-(trihydrogen

<-4

diphosphate), P'.fwdarw.5'-ester with

3-(aminocarbonyl)-1-.beta.-D-ribofuran

osylpyridinium, inner salt

#### Autoignition Temperature

No data available

#### Decomposition Temperature

No data available

#### Viscosity

No data available

#### Explosive Properties

No information available

#### Oxidizing Properties

No information available

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

**Hazardous Polymerization** No information available.  
**Hazardous Reactions** No information available.

### Conditions to Avoid

None known.

### Incompatible Materials

None known.

### Hazardous Decomposition Products

None under normal use conditions.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Acute Toxicity

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Hydrogen chloride	900 mg/kg ( Rabbit )	> 5010 mg/kg ( Rabbit )	LC50 = 4701 ppm (rat) 30 min (gas), LC50 = 588 ppm (4h) by extrapolation LC50 = 8.3 mg/L (rat ) 30 min (aerosols) (MMAD < 5µm)
Sodium hydroxide	LD50 = 325 mg/kg ( Rat )	LD50 = 1350 mg/kg ( Rabbit )	
Adenine (6-Aminopurine)	LD50 = 227 mg/kg ( Rat )		
p-Aminobenzoic acid	>6 g/kg ( Rat )		
Iron(III) nitrate nonahydrate	LD50 = 3250 mg/kg ( Rat )		
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl-chloride, monohydrochloride	LD50 = 3710 mg/kg ( Rat )		
Agar	LD50 = 11 g/kg ( Rat )		
Glucose	25.8 g/kg ( Rat )		

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Sodium chloride	LD50 = 3 g/kg ( Rat )	LD50 > 10000 mg/kg ( Rabbit )	LC50 > 42 mg/L ( Rat ) 1 h
Dipotassium phosphate	8 g/kg (rat)	LD50 > 5000 mg/kg ( Rabbit )	
Propanoic acid, 2-oxo-, sodium salt	5600 mg/kg (Rat)		

## Chronic Toxicity

### Carcinogenicity

There are no known carcinogenic chemicals in this product

### Legend:

X - Listed 'I' - 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

No information available.

## 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
Sodium hydroxide	LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss)	-	-	-
p-Aminobenzoic acid				= 27.4 mg/L EC50 Photobacterium phosphoreum 30 min 15 °C
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl- chloride, monohydrochloride	LC50 >100 mg/L/96h	EC50 >100 mg/L/48h		
Magnesium sulfate	LC50: 2610 - 3080 mg/L, 96h static (Pimephales promelas)	EC50: 266.4 - 417.3 mg/L, 48h Static (Daphnia magna)	EC50: = 2700 mg/L, 72h (Desmodesmus subspicatus)	= 84000 mg/L EC50 Photobacterium phosphoreum 30 min
Sodium chloride	Pimephals prome: LC50: 7650 mg/L/96h	EC50: 1000 mg/L/48h		

### Persistence and degradability

No information available

### Bioaccumulative potential

No information available

Component	log Pow	Bioconcentration factor (BCF)
Vitamin B12	3.57	No data available
Adenine (6-Aminopurine)	-0.1	No data available
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl- chloride, monohydrochloride	<-3.04	No data available
Adenosine 5'-(trihydrogen diphosphate),	<-4	No data available

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P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosyl pyridinium, inner salt		
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**Mobility in soil** No information available.

**Other adverse effects** No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from Residues/Unused Products**

Dispose of in accordance with local regulations

### Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

**Road and Rail Transport** Not regulated

**IATA** Not regulated

**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
Water	231-791-2	X	X	X	X		X	X	KE-35400
Hydrogen chloride	-	X	X	X	X	X	X	X	KE-20189
Sodium hydroxide	215-185-5	X	X	X	X	X	X	X	KE-31487
Vitamin B12	-	X	X	X	-	X	X	X	KE-11218
Adenine (6-Aminopurine)	-	X	X	X	X	X	X	X	KE-29916
6H-Purin-6-one, 2-amino-1,7-dihydro-, monohydrochloride	-	X	-	-	-		X	X	-
p-Aminobenzoic acid	205-753-0	X	X	X	X	X	X	X	KE-01199
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl )methyl]-4-methyl-5-(4,6,6-trihydroxy-3,5-dioxo-4,6-diphosphahex-1-yl)-, chloride, P,P'-dioxide	205-836-1	X	-	-	-		X	X	KE-01484
Iron(III) nitrate nonahydrate	-	-	-	X	X		X	X	-
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl )methyl]-5-(2-hydroxyethyl)-4-meth	-	X	X	X	X	X	X	X	KE-01482

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yl- chloride, monohydrochloride									
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribof uranosylpyridinium, inner salt	-	X	X	-	-		X	X	KE-25879
Agar	-	X	X	X	-		X	X	KE-00275
5-Amino-3-oxopentanoic acid	-	-	-	-	-	X	X	-	KE-05-0127
Magnesium sulfate	-	X	X	X	X	X	X	X	KE-22752
Hemoglobins	-	X	-	-	-		-	X	-
Glucose	-	X	X	X	X	X	X	X	KE-17727
Cysteine hydrochloride, L-(+)-, monohydrate	-	-	-	X	X		X	X	KE-01430
Sodium chloride	-	X	X	X	X	X	X	X	KE-31387
Dipotassium phosphate	-	X	X	X	X	X	X	X	KE-12167
Starch	-	X	X	X	X	X	X	X	KE-32128
Propanoic acid, 2-oxo-, sodium salt	204-024-4	X	X	X	X	X	X	X	KE-27653
Yeast, ext.	-	X	X	X	-		X	X	KE-05-1355
Caseins, hydrolyzates	-	X	X	X	X	X	X	X	KE-05-0318
Gelatins, hydrolyzates	-	X	X	X	-		X	X	KE-17576
Peptones	-	X	X	X	X	X	X	X	KE-28131

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)
Hydrogen chloride	25 tonne	250 tonne		Annex I - Y34
Sodium hydroxide				Annex I - Y35

## National Regulations

**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
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/NDL** - 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

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

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BCF - Bioconcentration factor

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

29-Mar-2023

Revision Summary

Not applicable.

**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**