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

Product Identifier
Perihalan Produk: **A8 Agar, Selective**
Product Description: **A8 Agar, Selective**
Cat No. : R20204

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

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

Component	CAS No	Weight %
Water	7732-18-5	78.16
Agar	9002-18-0	1.25
Calcium chloride, dihydrate	10035-04-8	Trace
HORSE SERUM	RR-36477-2	17.88
Yeast, ext.	8013-01-2	0.22
Adenine (6-Aminopurine)	73-24-5	Trace
6H-Purin-6-one, 2-amino-1,7-dihydro-, monohydrochloride	635-39-2	Trace
Urea	57-13-6	Trace
Penicillin G potassium	113-98-4	Trace
Amphotericin B	1397-89-3	Trace
Vitamin B12	68-19-9	Trace
L-Glutamine	32640-56-5	Trace
p-Aminobenzoic acid	150-13-0	Trace
Cysteine hydrochloride, L-(+)-, monohydrate	7048-04-6	Trace
Glucose	50-99-7	Trace
Manganese sulfate monohydrate	10034-96-5	Trace
Hydrogen chloride	7647-01-0	Trace
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-4-methyl-5-(4,6,6-trihydroxy-3,5-dioxa-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
Tryptic Soy Broth	NA	2.19
1,4-Butanediamine, dihydrochloride	333-93-7	0.16
N2-(N-Glycyl-L-histidyl)-L-lysine monoacetate	72957-37-0	Trace
5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[[(4-ethyl-2,3-dioxo-1-piperazinyl)carbonyl]amino](4-hydroxyphenyl)acetyl]amino]-3-[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, monosodi	62893-20-3	Trace
NONHAZARDOUS	NA	100

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.

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

Component	Malaysia	ACGIH TLV	OSHA PEL
Vitamin B12			(Vacated) TWA: 5 mg/m³
Manganese sulfate monohydrate		TWA: 0.02 mg/m³ TWA: 0.1 mg/m³	(Vacated) Ceiling: 5 mg/m³ Ceiling: 5 mg/m³
Hydrogen chloride		Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m³ (Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 7 mg/m³
Iron(III) nitrate nonahydrate		TWA: 1 mg/m³	(Vacated) TWA: 1 mg/m³

Component	European Union	The United Kingdom	Germany
Vitamin B12		STEL: 0.3 mg/m³ 15 min TWA: 0.1 mg/m³ 8 hr Resp. Sens. STEL: 15 mg/m³ 15 min TWA: 5 mg/m³ 8 hr Skin	TWA: 2 mg/m³ (8 Stunden). MAK Höhepunkt: 2 mg/m³ Haut
Manganese sulfate monohydrate	TWA: 0.05 mg/m³ (15min)	STEL: 0.6 mg/m³ 15 min STEL: 0.15 mg/m³ 15 min TWA: 0.2 mg/m³ 8 hr TWA: 0.05 mg/m³ 8 hr	TWA: 0.2 mg/m³ (8 Stunden). AGW - exposure factor 8 TWA: 0.02 mg/m³ (8 Stunden). AGW - exposure factor 8 TWA: 0.2 mg/m³ (8 Stunden). MAK TWA: 0.02 mg/m³ (8 Stunden). MAK Höhepunkt: 1.6 mg/m³ Höhepunkt: 0.16 mg/m³
Hydrogen chloride	TWA: 5 ppm (8h) TWA: 8 mg/m³ (8h) STEL: 10 ppm (15min) STEL: 15 mg/m³ (15min)	STEL: 5 ppm 15 min STEL: 8 mg/m³ 15 min TWA: 1 ppm 8 hr TWA: 2 mg/m³ 8 hr	TWA: 2 ppm (8 Stunden). AGW - exposure factor 2 TWA: 3 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 2 ppm (8 Stunden). MAK TWA: 3.0 mg/m³ (8 Stunden). MAK Höhepunkt: 4 ppm Höhepunkt: 6 mg/m³
Iron(III) nitrate nonahydrate		STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 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 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 No protective equipment is needed under normal use conditions

Recommended Filter type: Particle filter

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**
Calcium chloride, dihydrate	0.05
Adenine (6-Aminopurine)	-0.1
Urea	<-1.73
Penicillin G potassium	1.83
Vitamin B12	3.57
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl-chloride, monohydrochloride	<-3.04
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium, inner salt	<-4

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

VOC Content(%) 0.08

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known, based on information available.

Chemical Stability

Stable under normal 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

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	-	-	-
Agar	LD50 = 11 g/kg (Rat)		
Adenine (6-Aminopurine)	LD50 = 227 mg/kg (Rat)		
Urea	LD50 = 8471 mg/kg (Rat)		
Penicillin G potassium	LD50 = 8900 mg/kg (Rat)		
Amphotericin B	LD50 > 5 g/kg (Rat)		
p-Aminobenzoic acid	>6 g/kg (Rat)		
Glucose	25.8 g/kg (Rat)		

Hydrogen chloride	LD50 238 - 277 mg/kg (Rat)	LD50 > 5010 mg/kg (Rabbit)	LC50 = 1.68 mg/L (Rat) 1 h
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)		
5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[[(4-ethyl-2,3-dioxo-1-piperazinyl) carbonyl]amino](4-hydroxyphenyl)acetyl]amino]-3-[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, monosodi	LD50 > 12 g/kg (Rat)		

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Legend:

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 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
Calcium chloride, dihydrate	Lepomis macrochirus: LC50: 10650 mg/L/96h	EC50: 3005 mg/L/48h	-	-
Urea	LC50: 16200 - 18300 mg/L, 96h (Poecilia reticulata)	EC50: = 3910 mg/L, 48h Static (Daphnia magna)		= 23914 mg/L EC50 Photobacterium phosphoreum 5 min
Penicillin G potassium	LC50: > 500 mg/L, 96h static (Leuciscus idus melanotus)	EC50: > 1000 mg/L, 48h (Daphnia magna)		
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		

Persistence and degradability No information available

Bioaccumulative potential No information available

Component	log Pow	Bioconcentration factor (BCF)
Calcium chloride, dihydrate	0.05	No data available
Adenine (6-Aminopurine)	-0.1	No data available
Urea	<-1.73	<10 dimensionless
Penicillin G potassium	1.83	No data available
Vitamin B12	3.57	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), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosyl pyridinium, inner salt	<-4	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 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
Agar	-	X	X	X	-		X	X	KE-00275
Calcium chloride, dihydrate	-	-	-	X	X	X	X	X	-
Yeast, ext.	-	X	X	X	-		X	X	KE-05-1355
Adenine (6-Aminopurine)	-	X	X	X	X	X	X	X	KE-29916
6H-Purin-6-one,	-	X	-	-	-		X	X	-

2-amino-1,7-dihydro-, monohydrochloride									
Urea	-	X	X	X	X	X	X	X	KE-35144
Penicillin G potassium	204-038-0	X	X	X	X		-	-	KE-11721
Amphotericin B	215-742-2	-	-	X	X		X	X	-
Vitamin B12	-	X	X	X	-	X	X	X	KE-11218
p-Aminobenzoic acid	205-753-0	X	X	X	X	X	X	X	KE-01199
Cysteine hydrochloride, L-(+)-, monohydrate	-	-	-	X	X		X	X	KE-01430
Glucose	-	X	X	X	X	X	X	X	KE-17727
Manganese sulfate monohydrate	-	-	-	X	X	X	X	X	-
Hydrogen chloride	-	X	X	X	X	X	X	X	KE-20189
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-4-methyl-5-(4,6,6-trihydroxy-3,5-dioxa-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-methyl- chloride, monohydrochloride	-	X	X	X	X	X	X	X	KE-01482
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium, inner salt	-	X	X	-	-		X	X	KE-25879
1,4-Butanediamine, dihydrochloride	206-375-9	X	-	X	-		-	-	-
5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[[(4-ethyl-2,3-dioxo-1-piperazinyl)carbonyl]amino](4-hydroxyphenyl)acetyl]amino]-3-[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, monosodi	-	-	-	-	-	X	X	X	-

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

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