SAFETY DATA SHEET

Section 1 - Identification

Product Name **PRAS (VPI) PY with Amygdalin**

Product Code	**R05169**
Address	ThermoFisher Scientific Australia Pty Ltd 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia
Emergency Tel.	**CHEMTREC®** **03 9757 4559 or +613 9757 4559**
Telephone / Fax Numbers	Tel: 1300 735 292 Fax: 1800 067 639
E-mail address	ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list. Verify requirements related to using, handling and storing these substances. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as not hazardous according to criteria of Safe Work Australia.

Physical hazards
No hazards identified

Health hazards
No hazards identified

Environmental hazards
No hazards identified

Label Elements None required

Other information

This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Water	7732-18-5	97.46
Caseins, hydrolyzates	65072-00-6	0.49
Yeast, ext.	8013-01-2	0.97
Ethyl alcohol	64-17-5	Trace
Phylloquinone	84-80-0	Trace
Sodium hydroxide	1310-73-2	Trace
Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-N21,N22,N23,N24]-, dihydrogen, (SP-5-13)-	16009-13-5	Trace
Cysteine hydrochloride, L-(+)-, monohydrate	7048-04-6	Trace
Calcium chloride	10043-52-4	Trace
Dipotassium phosphate	7758-11-4	Trace
Dihydrogen potassium phosphate	7778-77-0	Trace
Sodium carbonate	497-19-8	Trace
Sodium chloride	7647-14-5	Trace
3H-Phenoxazin-3-one, 7-hydroxy-, 10-oxide, sodium salt	62758-13-8	Trace
Magnesium sulfate	7487-88-9	Trace
Methyl alcohol	67-56-1	Trace

Section 4 - First Aid Measures

Inhalation Remove to fresh air.

Ingestion Clean mouth with water and drink afterwards plenty of water.

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

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

Self-Protection of the First Aider No special precautions required.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and effects No information available.

Notes to Physician Treat symptomatically.

Section 5 - Fire Fighting Measures

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.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment and precautions 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

Emergency procedures
Ensure adequate ventilation.

Environmental Precautions
See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up

Clean-up methods - small spillage
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

Clean-up methods - large spillage
Typically only supplied is small quantiites as packaged goods.
If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

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.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits
AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]
Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia
ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.
UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.
DE - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011
NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Ethyl alcohol	TWA: 1000 ppm TWA: 1880 mg/m³	TWA: 1000 ppm TWA: 1880 mg/m³	STEL: 1000 ppm	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
Sodium hydroxide	2 mg/m³ TWA	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	2 mg/m³ STEL	2 mg/m³ TWA (inhalable fraction)
Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-	TWA: 1 mg/m³		TWA: 1 mg/m³	STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 8 hr	

2,18-dipropanoato(4-)-N21,N22,N23,N24]-, dihydrogen, (SP-5-13)-					
Methyl alcohol	STEL: 250 ppm STEL: 328 mg/m³ TWA: 200 ppm TWA: 262 mg/m³	TWA: 200 ppm TWA: 262 mg/m³ STEL: 250 ppm STEL: 328 mg/m³ Skin	TWA: 200 ppm STEL: 250 ppm Skin	WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL	100 ppm TWA MAK; 130 mg/m³ TWA MAKSkin absorber

Biological limit values

NZ - Substances assigned Biological Exposure Indices in the New Zealand Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

Component	Australia	New Zealand	European Union	United Kingdom	Germany
Methyl alcohol		15 mg/L (urine) end of shift (Methyl alcohol)			Methanol: 15 mg/L urine (end of shift) Methanol: 15 mg/L urine (for long-term exposures: at the end of the shift after several shifts)

Exposure Controls

Engineering Measures

None under normal use conditions.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

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.

Skin and body protection Long sleeved clothing

Repiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of repiratory protective devices

Recommended Filter type: Particle filter (or AUS/NZ equivalent)

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	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)	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**
Ethyl alcohol	-0.32
Methyl alcohol	-0.74

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

Other information

VOC Content(%)	0.0105

Section 10 - Stability and Reactivity

Reactivity	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	None known.
Hazardous Decomposition Products	None under normal use conditions.
Hazardous Polymerization	No information available.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral	Based on available data, the classification criteria are not met
Dermal	Based on available data, the classification criteria are not met
Inhalation	Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Ethyl alcohol	LD50 = 7060 mg/kg (Rat)		20000 ppm/10H (Rat)
Phylloquinone	LD50 > 33487 mg/kg (Rat)		
Sodium hydroxide	LD50 = 325 mg/kg (Rat)	LD50 = 1350 mg/kg (Rabbit)	
Calcium chloride	2301 mg/kg (Rat)	LD50 > 5000 mg/kg (Rabbit)	
Dipotassium phosphate	8 g/kg (rat)	LD50 > 5000 mg/kg (Rabbit)	
Dihydrogen potassium phosphate	LD50 = 3200 mg/kg (Rat)	LD50 > 4640 mg/kg (Rabbit)	LC50 > 0.83 mg/L (Rat) 4 h
Sodium carbonate	2800 mg/kg (Rat)	> 2000 mg/kg (rabbit)	2.3 mg/l 2h (Rat)
Sodium chloride	LD50 = 3 g/kg (Rat)	LD50 > 10000 mg/kg (Rabbit)	LC50 > 42 mg/L (Rat) 1 h
Methyl alcohol	LD50 = 1187 – 2769 mg/kg (Rat)	LD50 = 17100 mg/kg (Rabbit)	LC50 = 128.2 mg/L (Rat) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available

Skin No data available

Component	Test method	Test species	Study result
Methyl alcohol 67-56-1 (Trace)	OECD Test Guideline 406 Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B) The table below indicates whether each agency has listed any ingredient as a carcinogen Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage.

(g) reproductive toxicity; No data available

Component	Test method	Test species / Duration	Study result
Methyl alcohol 67-56-1 (Trace)	OECD Test Guideline 416	Rat / Inhalation 2 Generation	NOAEC = 1.3 mg/l (air)

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed 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
Ethyl alcohol	Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min
Sodium hydroxide	LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss)	-	-	-
Calcium chloride	Lepomis macrochirus: LC50: 10650 mg/L/96h	EC50: 52 mg/L/48h		
Sodium carbonate	Lepomis macrochirus: LC50: 300 mg/L/96h Gambusia affinis: LC50: 740 mg/L/96h	EC50: = 265 mg/L, 48h (Daphnia magna)		-
Sodium chloride	Pimephals prome: LC50: 7650 mg/L/96h	EC50: 1000 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
Methyl alcohol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h		EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min

Persistence and Degradability No information available

Component	Degradability
Methyl alcohol 67-56-1 (Trace)	DT50 ~ 17.2d >94% after 20d

Bioaccumulative Potential No information available

Component	log Pow	Bioconcentration factor (BCF)
Ethyl alcohol	-0.32	No data available
Methyl alcohol	-0.74	<10 dimensionless

Mobility No information available.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

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 13 - Disposal Considerations

Waste from Residues/Unused Products Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

Other Information Chemical wastes should be disposed through a licensed commercial waste collection service.

Section 14 - Transport Information

IMDG/IMO Not regulated

ADG Not regulated

Component	Hazchem Code
Ethyl alcohol 64-17-5 (Trace)	2YE 2Y
Sodium hydroxide 1310-73-2 (Trace)	2W 2R
Methyl alcohol 67-56-1 (Trace)	2WE

IATA Not regulated

Environmental hazards No hazards identified

Special Precautions No special precautions required

Additional information None known

Section 15 - Regulatory Information

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

National Regulations **Australia**

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons
Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

Component	Standard for the Uniform Scheduling of Medicines and Poisons
Sodium hydroxide - 1310-73-2	Schedule 5 listed - except its salts and derivatives;in preparations being: solid preparations the pH of which in a 10 g/L aqueous solution is >11.5;liquid or semi-solid preparations the pH of which is >11.5 except in food additive preparations for domestic use Schedule 6 listed - except its salts and derivatives;except: [a] when included in Schedule 5 or Schedule 10, [b] in preparations containing <=5% of Sodium hydroxide being: [i] solid preparations, the pH of which in a 10 g/L aqueous solution is <=11.5, or [ii] liquid or semi-solid preparations the pH of which is <=11.5 Schedule 10 listed
Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-N21,N22,N23,N24]-, dihydrogen, (SP-5-13)- - 16009-13-5	Schedule 2 listed Schedule 4 listed - in injectable preparations for human use Schedule 5 listed - for the treatment of animals except up to 1% of Iron oxides when present as an excipient;in preparations for injection except in preparations containing <=0.1% of Iron Schedule 5 listed - for the treatment of animals except up to 1% of Iron oxides when present as an excipient;in other preparations except in liquid or gel preparations containing <=0.1% of Iron, or in animal feeds or feed premixes Schedule 5 listed - for use as agricultural chemicals except in preparations containing <=4% of Iron Schedule 6 listed - except up to 1% of Iron oxides when present as an excipient. For the treatment of animals except: when included in Schedule 5, in liquid or gel preparations containing <=0.1% of Iron, or in animal feeds or feed premixes
Dipotassium phosphate - 7758-11-4	Schedule 5 listed - being the carbonate, silicate or phosphate salts of sodium or potassium alone or in any combination: in solid orthodontic device cleaning preparations, the pH of which as an in-use aqueous solution is >11.5, in solid automatic dishwashing preparations, the pH of which in a 500 g/L aqueous solution or mixture is >11.5 but <=12.5;in other solid preparations, the pH of which in a 10 g/L aqueous solution is >11.5, or in liquid or semi-solid preparations, the pH of which is >11.5, unless: in food additive preparations for domestic use, or in automatic dish washing preparations for domestic use with a pH >12.5;except when separately specified in these Schedules Schedule 5 listed - being the Carbonate, Silicate or Phosphate salts of Sodium or Potassium alone or in any combination: in solid orthodontic device cleaning preparations as an in-use aqueous solution;in solid automatic dishwashing preparations in a 500 g/L aqueous solution or mixture but with pH <=12.5;in other solid preparations in a 10 g/L aqueous solution, or in liquid or semi-solid preparations, unless in food additive preparations for domestic use, or in automatic dish washing preparations for domestic use with a pH >12.5;except when separately specified in these Schedules

	Schedule 6 listed - being the carbonate, silicate or phosphate salts of sodium or potassium alone or in any combination for non-domestic use: in solid automatic dishwashing preparations, the pH of which in a 500 g/L aqueous solution or mixture is >12.5, or in liquid or semi-solid automatic dishwashing preparations, the pH of which is >12.5 Schedule 10 listed
Dihydrogen potassium phosphate - 7778-77-0	Schedule 10 listed
Sodium carbonate - 497-19-8	Schedule 5 listed - being the carbonate, silicate or phosphate salts of sodium or potassium alone or in any combination: in solid orthodontic device cleaning preparations, the pH of which as an in-use aqueous solution is >11.5, in solid automatic dishwashing preparations, the pH of which in a 500 g/L aqueous solution or mixture is >11.5 but <=12.5;in other solid preparations, the pH of which in a 10 g/L aqueous solution is >11.5, or in liquid or semi-solid preparations, the pH of which is >11.5, unless: in food additive preparations for domestic use, or in automatic dish washing preparations for domestic use with a pH >12.5;except when separately specified in these Schedules Schedule 5 listed - being the Carbonate, Silicate or Phosphate salts of Sodium or Potassium alone or in any combination: in solid orthodontic device cleaning preparations as an in-use aqueous solution;in solid automatic dishwashing preparations in a 500 g/L aqueous solution or mixture but with pH <=12.5;in other solid preparations in a 10 g/L aqueous solution, or in liquid or semi-solid preparations, unless in food additive preparations for domestic use, or in automatic dish washing preparations for domestic use with a pH >12.5;except when separately specified in these Schedules Schedule 6 listed - being the carbonate, silicate or phosphate salts of sodium or potassium alone or in any combination for non-domestic use: in solid automatic dishwashing preparations, the pH of which in a 500 g/L aqueous solution or mixture is >12.5, or in liquid or semi-solid automatic dishwashing preparations, the pH of which is >12.5 Schedule 10 listed
Magnesium sulfate - 7487-88-9	Schedule 3 listed
Methyl alcohol - 67-56-1	Schedule 5 listed - except its derivatives;in preparations except a) when included in Schedule 10, or b) in preparations containing <=2% of Methanol, or c) when Methanol is present only as a denaturant of Ethanol Schedule 6 listed - except its derivatives;except a) when included in Schedule 5, or b) when included in Schedule 10, or c) in preparations containing <=2% of Methanol Schedule 10 listed

Australian Industrial Chemicals Introduction Scheme (AICIS)

Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Water - 7732-18-5	Present	-
Caseins, hydrolyzates - 65072-00-6	Present	-
Yeast, ext. - 8013-01-2	Present	-
Ethyl alcohol - 64-17-5	Present	-
Phylloquinone - 84-80-0	Present	-
Sodium hydroxide - 1310-73-2	Present	-
Cysteine hydrochloride, L-(+)-, monohydrate - 7048-04-6	Present	-
Calcium chloride - 10043-52-4	Present	-
Dipotassium phosphate - 7758-11-4	Present	-
Dihydrogen potassium phosphate - 7778-77-0	Present	-
Sodium carbonate - 497-19-8	Present	-
Sodium chloride - 7647-14-5	Present	-
3H-Phenoxazin-3-one, 7-hydroxy-, 10-oxide, sodium salt - 62758-13-8	Present	Specific information requirement: Obligations to provide information apply. You must tell us within 28 days if the circumstances of your importation or manufacture (introduction) are different to those in our assessment.
Magnesium sulfate - 7487-88-9	Present	-
Methyl alcohol - 67-56-1	Present	-

Australian - Illicit Drug Precursors/Reagents Substance List
This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list. Verify requirements related to using, handling and storing these substances.

Chemicals of Security Concern
This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

Component	Australian - Illicit Drug Precursors/Reagents Substance List	Chemicals of Security Concern
Sodium hydroxide - 1310-73-2	Category 3	

Legend
Category 3 - Chemicals and apparatus that may be used in the illicit production of drugs. Purchases from this list should alert companies or organizations to seek further indicators of any suspicious orders or enquiries. No official reporting is required for items on this list unless considered warranted

National pollutant inventory Subject to reporting requirements

Component	National pollutant inventory
Ethyl alcohol - 64-17-5	10 tonne/yr. Threshold category 1
Methyl alcohol - 67-56-1	10 tonne/yr. Threshold category 1

Prohibition or notification/licensing requirements
Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	ISHL	IECSC	KECL
Water	X	X	231-791-2	-	X	X	-	X	X		X	KE-35400
Caseins, hydrolyzates	X	X	265-363-1	-	X	X	-	X	X	X	X	KE-05-0318
Yeast, ext.	X	X	232-387-9	-	X	X	-	X	-		X	KE-05-1355
Ethyl alcohol	X	X	200-578-6	-	X	X	-	X	X	X	X	KE-13217
Phylloquinone	X	X	201-564-2	-	X	X	-	X	X	X	X	KE-24853
Sodium hydroxide	X	X	215-185-5	-	X	X	-	X	X	X	X	KE-31487
Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-N21,N22,N23,N24]-, dihydrogen, (SP-5-13)-	-	X	240-140-1	-	X	X	-	-	X	X	X	-
Cysteine hydrochloride, L-(+)-, monohydrate	X	X	-	-	-	-	-	X	X		X	KE-01430
Calcium chloride	X	X	233-140-8	-	X	X	-	X	X	X	X	KE-04496
Dipotassium phosphate	X	X	231-834-5	-	X	X	-	X	X	X	X	KE-12167
Dihydrogen potassium phosphate	X	X	231-913-4	-	X	X	-	X	X	X	X	KE-28622
Sodium carbonate	X	X	207-838-8	-	X	X	-	X	X	X	X	KE-31380
Sodium chloride	X	X	231-598-3	-	X	X	-	X	X	X	X	KE-31387
3H-Phenoxazin-3-one, 7-hydroxy-, 10-oxide, sodium salt	X	X	263-718-5	-	X	X	-	X	-		X	-
Magnesium sulfate	X	X	231-298-2	-	X	X	-	X	X	X	X	KE-22752
Methyl alcohol	X	X	200-659-6	-	X	X	-	X	X	X	X	KE-23193

Legend: X - Listed. '-' - Not Listed. **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

International Regulations

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

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

Rotterdam Convention (PIC) Not applicable

Basel convention on the control of transboundary movements of hazardous wastes and their dispoal
Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories of Wastes to Be Controlled
Ethyl alcohol - 64-17-5	Annex I - Y42	Y42 except Halogenated solvents
Sodium hydroxide - 1310-73-2	Annex I - Y35	Y35 solid or solution

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
Caseins, hydrolyzates	65072-00-6	Not applicable	Not applicable	Not applicable	Not applicable
Yeast, ext.	8013-01-2	Not applicable	Not applicable	Not applicable	Not applicable
Ethyl alcohol	64-17-5	Listed	Not applicable	Not applicable	Not applicable
Phylloquinone	84-80-0	Not applicable	Not applicable	Not applicable	Not applicable
Sodium hydroxide	1310-73-2	Listed	Not applicable	Not applicable	Not applicable
Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-N21,N22,N23,N24]-, dihydrogen, (SP-5-13)-	16009-13-5	Not applicable	Not applicable	Not applicable	Not applicable
Cysteine hydrochloride, L-(+)-, monohydrate	7048-04-6	Not applicable	Not applicable	Not applicable	Not applicable
Calcium chloride	10043-52-4	Listed	Not applicable	Not applicable	Not applicable
Dipotassium phosphate	7758-11-4	Listed	Not applicable	Not applicable	Not applicable
Dihydrogen potassium phosphate	7778-77-0	Listed	Not applicable	Not applicable	Not applicable
Sodium carbonate	497-19-8	Listed	Not applicable	Not applicable	Not applicable
Sodium chloride	7647-14-5	Listed	Not applicable	Not applicable	Not applicable
3H-Phenoxazin-3-one, 7-hydroxy-, 10-oxide, sodium salt	62758-13-8	Not applicable	Not applicable	Not applicable	Not applicable
Magnesium sulfate	7487-88-9	Listed	Not applicable	Not applicable	Not applicable
Methyl alcohol	67-56-1	Listed	Not applicable	500 tonne	5000 tonne

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Phylloquinone	-	Use restricted. See item 75. (see link for restriction details)	-
Sodium hydroxide	-	Use restricted. See item 75. (see link for restriction details)	-
Calcium chloride	-	Use restricted. See item 75. (see link for restriction details)	-
Sodium carbonate	-	Use restricted. See item 75. (see link for restriction details)	-
Methyl alcohol	-	Use restricted. See item 69. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	-

https://echa.europa.eu/substances-restricted-under-reach

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
IECSC - Chinese Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
NZS 5433:2020 - Transport of Dangerous Goods on Land
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
WEL - Workplace Exposure Limit
DNEL - Derived No Effect Level
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative
VOC - (Volatile Organic Compound)

NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
CAS - Chemical Abstracts Service
ACGIH - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail
OECD - Organisation for Economic Co-operation and Development
LC50 - Lethal Concentration 50%
ATE - Acute Toxicity Estimate
RPE - Respiratory Protective Equipment
NOEC - No Observed Effect Concentration
BCF - Bioconcentration factor
PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Revision Date	05-Jul-2023
Revision Summary	Not applicable.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

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