SAFETY DATA SHEET

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

Section 1 - Identification

Product Name **ShandonTissue Marking Dye**

Product Code	**ALP3120125, ALP3120124, ALP3120128, ALP3120127, ALP3120126**
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 contains one or more substance(s) subject to Prohibition, Authorization or Restriction. Verify that requirements related to using, handling, and storing substances subject to prohibition, authorization or restriction are met. 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 hazardous according to criteria of Safe Work Australia

Physical hazards
No hazards identified

Health hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 2

Environmental hazards

Label Elements

Flame

Health Hazard

Corrosion
Environment

Signal Word **Danger**

Hazard Statements
H225 - Highly flammable liquid and vapor
H315 - Causes skin irritation
H318 - Causes serious eye damage
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P362 + P364 - Take off contaminated clothing and wash it before reuse
P403 - Store in a well-ventilated place
P501 - Dispose of contents/ container to an approved waste disposal plant

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	80
Diarylide Yellow AAOT	5468-75-7	Yellow only
Fluorescent red pigment	RR-20187-6	Red only
Phthalocyanine blue	147-14-8	Blue only
Malachite green	569-64-2	Green only
Carbon black	1333-86-4	Black only
Ammonium hydroxide	1336-21-6	1-3
Formaldehyde	50-00-0	<0.1

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	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
First Aid Facilities	Eyewash, safety shower and washroom.
Most important symptoms and effects	Difficulty in breathing. Causes eye burns. Causes severe eye damage. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media
Water mist may be used to cool closed containers.

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

Specific Hazards Arising from the Chemical
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

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
Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Clean-up methods - small spillage
Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

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

Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

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

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
Phthalocyanine blue			TWA: 1 mg/m³	STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 8 hr	
Carbon black	TWA: 3 mg/m³	TWA: 3 mg/m³	TWA: 3 mg/m³	STEL: 7 mg/m³ 15 min TWA: 3.5 mg/m³ 8 hr	
Formaldehyde	STEL: 2 ppm STEL: 2.5 mg/m³ TWA: 1 ppm TWA: 1.2 mg/m³	TWA: 0.3 ppm STEL: 0.6 ppm	TWA: 0.1 ppm STEL: 0.3 ppm	STEL: 2 ppm 15 min STEL: 2.5 mg/m³ 15 min TWA: 2 ppm 8 hr TWA: 2.5 mg/m³ 8 hr Carc.	TWA: 0.3 ppm (8 Stunden). AGW - exposure factor 2 TWA: 0.37 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 0.3 ppm (8 Stunden). MAK no irritation should occur during mixed exposure TWA: 0.37 mg/m³ (8 Stunden). MAK no irritation should occur during mixed exposure Höhepunkt: 0.6 ppm Höhepunkt: 0.74 mg/m³

Biological limit values
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Exposure Controls
Engineering Measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. 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 (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 (or AUS/NZ equivalent)
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 Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Varies Blue Black Red Yellow Green	
Physical State	Viscous liquid Liquid	
Odor	No information available	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	-117 °C / -178.6 °F	
Softening Point	No data available	
Boiling Point/Range	78 °C / 172.4 °F	
Flash Point	14 °C / 57.2 °F	**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	Soluble in water	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Diarylide Yellow AAOT	0.5
Phthalocyanine blue	6.6
Formaldehyde	-0.35

Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties		Vapors may form explosive mixtures with air
Oxidizing Properties	No information available	

Other information

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	-	-	-
Diarylide Yellow AAOT	LD50 > 5 g/kg (Rat)		LC50 > 230 mg/m³ (Rat) 4 h
Phthalocyanine blue	LD50 > 10000 mg/kg (Rat)	LD50 > 5000 mg/kg (Rat)	
Carbon black	LD50 > 15400 mg/kg (Rat)	LD50 > 3 g/kg (Rabbit)	LC50 > 4.6 mg/m³ (Rat) 4 h
Ammonium hydroxide	LD50 > 350 mg/kg (Rat)		
Formaldehyde	500 mg/kg (Rat)	LD50 = 270 mg/kg (Rabbit)	0.578 mg/L (Rat) 4 h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Component	Test method	Test species	Study result
Formaldehyde 50-00-0 (<0.1)	Skin sensitization Test method Patch Test Respiratory sensitization in vitro	Man guinea pig	Sensitizer Sensitization

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; Category 1B

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

Component	Australia	New Zealand	New South Wales	Western Australia	IARC	EU	UK	Germany

Carbon black		Suspected carcinogen			Group 2B			Cat. 3B
Formaldehyde	Cat 1B	Confirmed carcinogen			Group 1	Carc Cat. 1B	Cat 3	

(g) reproductive toxicity; Category 2

(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 Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Section 12 - Ecological Information

Ecotoxicity effects The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Contains a substance which is:. Very toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Carbon black		EC50: > 5600 mg/L, 24h (Daphnia magna)		
Ammonium hydroxide	0.53 mg/l LC50 96h 0.75 - 3.4 mg/l LC50 96h 8.2 mg/L LC50 96h	EC50: 0.66 mg/L/48h	-	-
Formaldehyde	Leuciscus idus: LC50 = 15 mg/L 96h	EC50 = 20 mg/L 96h EC50 = 2 mg/L 48h	EC50 (72h) = 4.89 mg/L (Desmodesmus subspicatus)	

Persistence and Degradability

Persistence Persistence is unlikely, based on information available.

Component	Degradability
Formaldehyde 50-00-0 (<0.1)	Readily biodegradable (OECD guideline 301A, 301C and 301D) under aerobic and anaerobic conditions.

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Diarylide Yellow AAOT	0.5	>=0 - <=6.2 dimensionless
Phthalocyanine blue	6.6	0.3 - 11 dimensionless
Formaldehyde	-0.35	No data available

Mobility The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility Disperses rapidly in air

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 Dispose of this container to hazardous or special waste collection point. Empty containers

retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information

Chemical wastes should be disposed through a licensed commercial waste collection service. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Do not let this chemical enter the environment.

Section 14 - Transport Information

IMDG/IMO Not regulated

Component	IMDG Marine Pollutant
Ammonium hydroxide 1336-21-6 (1-3)	IMDG regulated marine pollutant (UN2073); IMDG regulated marine pollutant (UN2672); IMDG regulated marine pollutant (UN3318)

ADG Not regulated

Component	Hazchem Code
Ammonium hydroxide 1336-21-6 (1-3)	2XE
Formaldehyde 50-00-0 (<0.1)	2X 2W

IATA Not regulated

Environmental hazards

Dangerous for the environment
Product is a marine pollutant according to the criteria set by IMDG/IMO

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
Phthalocyanine blue - 147-14-8	Schedule 4 listed - for human use except: when separately specified in these Schedules, in preparations for human internal use containing <=5 mg of Copper per recommended daily dose, or in other preparations containing <=5% of Copper compounds Schedule 5 listed - in animal feed additives except in preparations containing <=1% of Copper Schedule 6 listed - except: when separately specified in these Schedules, in preparations for human internal use containing <=5 mg of Copper per recommended daily dose, pigments where the solubility of the Copper compounds in water is <=1 g/L, in feed additives containing <=1% of Copper, or in other preparations containing <=5% of Copper compounds
Malachite green - 569-64-2	Schedule 5 listed - in preparations for veterinary use Schedule 7 listed

Ammonium hydroxide - 1336-21-6	Schedule 5 listed - in preparations except: in preparations for human internal therapeutic use, in preparations for inhalation when absorbed in an inert solid material, or in preparations containing <=0.5% of free Ammonia Schedule 6 listed - except when included in Schedule 5;in preparations for human internal therapeutic use;in preparations for inhalation when absorbed in an inert solid material, or in preparations containing <=0.5% of Ammonia
Formaldehyde - 50-00-0	Schedule 2 listed Schedule 6 listed - except its derivatives;in preparations as free Formaldehyde except: a) for human therapeutic use, b) in oral hygiene preparations, c) in nail hardener cosmetic preparations containing >=5% of free Formaldehyde, d) in nail hardener cosmetic preparations containing <=0.2% of free Formaldehyde when labelled with the warning statement: PROTECT CUTICLES WITH GREASE OR OIL, e) in all other cosmetic preparations, or f) in other preparations containing <=0.2% of free Formaldehyde when labelled with the warning statement: CONTAINS FORMALDEHYDE Schedule 10 listed

Australian Industrial Chemicals Introduction Scheme (AICIS)

Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Water - 7732-18-5	Present	-
Diarylide Yellow AAOT - 5468-75-7	Present	-
Phthalocyanine blue - 147-14-8	Present	-
Malachite green - 569-64-2	Present	-
Carbon black - 1333-86-4	Present	-
Ammonium hydroxide - 1336-21-6	Present	-
Formaldehyde - 50-00-0	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.

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
Formaldehyde - 50-00-0	Category 2	

Legend
Category 2 - Chemicals and apparatus that require an End User Declaration when sold to non-account customers

National pollutant inventory Subject to reporting requirements

Component	National pollutant inventory
Formaldehyde - 50-00-0	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 contains one or more substance(s) subject to Prohibition, Authorization or Restriction. Verify that requirements related to using, handling, and storing substances subject to prohibition, authorization or restriction are met.

Component	Australia	New South Wales	Western Australia	New Zealand
Carbon black - 1333-86-4				Suspected carcinogen
Formaldehyde - 50-00-0	Cat 1B			Confirmed carcinogen

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
Diarylide Yellow AAOT	X	X	226-789-3	-	X	X	-	X	X	X	X	KE-10086
Phthalocyanine blue	X	X	205-685-1	-	X	X	-	X	X	X	X	KE-33250
Malachite green	X	X	209-322-8	-	X	X	-	X	X	X	X	KE-06976
Carbon black	X	X	215-609-9	435-640-3	X	X	-	X	X	X	X	X
Ammonium hydroxide	X	X	215-647-6	-	X	X	-	X	X	X	X	KE-01688
Formaldehyde	X	X	200-001-8	-	X	X	-	X	X	X	X	KE-17074

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

MARPOL - International Convention for the Prevention of Pollution from Ships

Component	IMDG Marine Pollutant
Ammonium hydroxide - 1336-21-6	IMDG regulated marine pollutant (UN2073); IMDG regulated marine pollutant (UN2672); IMDG regulated marine pollutant (UN3318)

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
Phthalocyanine blue - 147-14-8	Annex I - Y22	Y22

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
Diarylide Yellow AAOT	5468-75-7	Listed	Not applicable	Not applicable	Not applicable
Fluorescent red pigment	RR-20187-6	Not applicable	Not applicable	Not applicable	Not applicable
Phthalocyanine blue	147-14-8	Listed	Not applicable	Not applicable	Not applicable
Malachite green	569-64-2	Not applicable	Not applicable	Not applicable	Not applicable
Carbon black	1333-86-4	Listed	Not applicable	Not applicable	Not applicable
Ammonium hydroxide	1336-21-6	Listed	Not applicable	Not applicable	Not applicable
Formaldehyde	50-00-0	Listed	Not applicable	5 tonne	50 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)
Diarylide Yellow AAOT	-	Use restricted. See item 75. (see link for restriction details)	-
Phthalocyanine blue	-	Use restricted. See item 75. (see link for restriction details)	-
Malachite green	-	Use restricted. See item 75. (see link for restriction details)	-

Carbon black	-	Use restricted. See item 75. (see link for restriction details)	-
Ammonium hydroxide	-	Use restricted. See item 75. (see link for restriction details) Use restricted. See item 65. (see link for restriction details)	-
Formaldehyde	-	Use restricted. See item 72. (see link for restriction details) Use restricted. See item 28. (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	14-Jul-2023
Revision Summary	Update to GHS format.

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