SAFETY DATA SHEET

BYK-P 104 S

Section 1: Identification

Product name : BYK-P 104 S

Product code : 000000000000105747

Manufacturer or supplier's details

Company : BYK-Chemie GmbH

Address : Abelstrasse 45
46483 Wesel

Telephone : +49 281 670-23532
Telefax : +49 281 670-23533
E-mail address : GHS.BYK@altana.com

Emergency telephone number : 0800 446 881 (toll-free number, access from New Zealand only)
+64 9 929 1483

Importer

Company : IMCD New Zealand Limited
459 Great South Road
Penrose, Auckland 1061
New Zealand
Phone: +64 9 582 0250

Use of the Substance/Mixture : Wetting & Dispersing Additive

Section 2: Hazard identification

GHS Classification

Flammable liquids : Category 3

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Carcinogenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity - repeated exposure : Category 2

Hazardous to the aquatic environment - chronic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe mist or vapours.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P284 Wear respiratory protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

Section 3: Composition/information on ingredients

Substance / Mixture : Mixture
Chemical nature : Solution of a lower molecular weight unsaturated polycarboxylic acid polymer and a polysiloxane copolymer

Components

Chemical name	CAS-No.	Concentration (% w/w)
Fatty acids, C14-18 and C16-18-unsatd., maleated	85711-46-2	>= 30 -< 50
Xylene, mixture of isomers	1330-20-7	>= 30 -< 50
ethylbenzene	100-41-4	>= 12.5 -< 20
2,6-dimethylheptan-4-one	108-83-8	>= 3 -< 5
maleic anhydride	108-31-6	>= 0.25 -< 0.5

Section 4: First-aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Call a physician or poison control centre immediately.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : No information available.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Notes to physician : No information available.

Section 5: Fire-fighting measures

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Hazchem Code	:	3Y

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralize with chalk, alkali solution or ammonia. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Section 7: Handling and storage

Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
Conditions for safe storage	:	No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	No decomposition if stored and applied as directed.

Section 8: Exposure controls/personal protection

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Xylene, mixture of isomers	1330-20-7	WES-TWA	50 ppm 217 mg/m3	NZ OEL
	Further information: Ototoxin, Exposure can also be estimated by biological monitoring			
Xylene, mixture of isomers		TWA	20 ppm	ACGIH
ethylbenzene	100-41-4	WES-TWA	20 ppm 88 mg/m3	NZ OEL
	Further information: Ototoxin, Skin absorption			
		WES-STEL	40 ppm 176 mg/m3	NZ OEL
	Further information: Ototoxin, Skin absorption			
ethylbenzene		TWA	20 ppm	ACGIH
2,6-dimethylheptan-4-one	108-83-8	WES-TWA	25 ppm 145 mg/m3	NZ OEL
2,6-dimethylheptan-4-one		TWA	25 ppm	ACGIH
maleic anhydride	108-31-6	WES-TWA (Inhalable Fraction and	0.0025 ppm 0.01 mg/m3	NZ OEL

		Vapour)		
	Further information: Sensitiser			
maleic anhydride		TWA (Inhalable fraction and vapor)	0.01 mg/m3	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Xylene, mixture of isomers	1330-20-7	Methylhippuric acid	Urine	End of shift	1.5 g/l	NZ BEI
		Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	0.3 g/g creatinine	ACGIH BEI
ethylbenzene	100-41-4	Sum of mandelic acid and phenylglyoxylic acids	Urine	End of exposure or end of shift	0.25 g/g creatinine	NZ BEI
		Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	150 mg/g creatinine	ACGIH BEI

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection
- Material : Fluorinated rubber
- Break through time : > 480 min
- Glove length : > 0.45 mm

- Remarks : Wear suitable gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Section 9: Physical and chemical properties

Appearance : liquid

Colour : light brown

Odour : aromatic

Odour Threshold	:	No data available
pH	:	4 (20 °C) Concentration: 1 % Method: Universal pH-value indicator
Melting point/ range	:	< 0 °C Method: derived
Initial boiling point	:	137.00 °C Method: derived
Flash point	:	28.00 °C Method: 48 (Abel-Pensky) DIN 51755
Evaporation rate	:	No data available
Flammability (liquids)	:	Sustains combustion
Upper explosion limit / Upper flammability limit	:	7.60 %(V)
Lower explosion limit / Lower flammability limit	:	0.80 %(V)
Vapour pressure	:	9 hPa (20.00 °C) Method: derived
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.9450 g/cm3 (20.00 °C) Method: 4 (20°C oscillating U-tube)
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	> 200 °C Method: DIN 51794
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	40 mm2/s (40.00 °C)

Section 10: Stability and reactivity

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Strong acids
Hazardous decomposition products	:	No decomposition if stored normally.

Section 11: Toxicological information

Acute toxicity

Not classified due to lack of data.

Product:

Acute oral toxicity	:	LD50 (Rat, male and female): > 3,500.000000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	:	Acute toxicity estimate: > 20 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes

Xylene, mixture of isomers:

Acute oral toxicity	:	LD50 (Rat): 4,300 mg/kg Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral) GLP: no
Acute dermal toxicity	:	LD50 (Rabbit): > 4,200 mg/kg GLP: No information available.

2,6-dimethylheptan-4-one:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	:	LC50 (Rat): > 14 mg/l Test atmosphere: dust/mist

Method: OECD Test Guideline 403
GLP: no

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

maleic anhydride:

Acute oral toxicity : LD50 (Rat, male and female): 1,090 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit, female): 2,620 mg/kg
GLP: No information available.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation

Remarks : May cause skin irritation and/or dermatitis.

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Species : EPISKIN human epidermis skin constructs
Assessment : Irritating to skin.
Method : OECD Test Guideline 439
Result : Irritating to skin.
GLP : yes

2,6-dimethylheptan-4-one:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

maleic anhydride:

Species : Rabbit
Method : No information available.
Result : Corrosive to skin
GLP : no

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species : Rabbit
Result : No eye irritation

Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes

2,6-dimethylheptan-4-one:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	no

maleic anhydride:

Species	:	Rabbit
Result	:	Corrosive to eyes
GLP	:	yes

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Product:

Remarks	:	Causes sensitisation.

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Test Type	:	Mouse Local Lymph Node assay (LLNA)
Species	:	Mouse
Assessment	:	May cause sensitisation by skin contact.
Method	:	OECD Test Guideline 429
Result	:	May cause sensitisation by skin contact.
GLP	:	yes

2,6-dimethylheptan-4-one:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
GLP	:	yes

maleic anhydride:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Causes sensitisation.
GLP	:	yes

Chronic toxicity

Germ cell mutagenicity

Not classified due to lack of data.

Product:

Genotoxicity in vitro	:	Remarks: No data available
Genotoxicity in vivo	:	Result: No data available

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Genotoxicity in vitro	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes Test Type: In vitro mammalian cell gene mutation test (mouse lymphoma) Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: yes

Carcinogenicity

Suspected of causing cancer.

Product:

Remarks	:	No data available

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Product:

Effects on fertility	:	Remarks: No data available

Effects on foetal development : Remarks: No data available

STOT - single exposure

Not classified due to lack of data.

Product:

Remarks : No data available

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Product:

Remarks : No data available

Repeated dose toxicity

Product:

Remarks : No data available

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Species	:	Rat, male and female
NOAEL	:	1,000 mg/kg
Application Route	:	Oral
Method	:	OECD Test Guideline 422
GLP	:	yes
Target Organs	:	Stomach

Aspiration toxicity

Not classified due to lack of data.

Product:

No data available

Further information

Product:

Remarks : Solvents may degrease the skin.

Section 12: Ecological information

Ecotoxicity

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Toxicity to fish : LL50 (Leuciscus idus (Golden orfe)): > 150 mg/l
Exposure time: 48 h
Test Type: static test
Method: DIN 38412

GLP: no

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : ErL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209
GLP: yes

Xylene, mixture of isomers:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1 mg/l
Exposure time: 24 h
Test Type: Immobilization
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 2.2 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.44 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 1.3 mg/l
Exposure time: 56 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia sp. (water flea)): 1.17 mg/l
Exposure time: 7 d

NOEC (Daphnia sp. (water flea)): 0.96 mg/l
Exposure time: 7 d

2,6-dimethylheptan-4-one:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 30 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 37.2 mg/l Exposure time: 48 h Test Type: semi-static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	(Pseudokirchneriella subcapitata (green algae)): 46.9 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes

maleic anhydride:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 75 mg/l Exposure time: 96 h Test Type: static test GLP: no
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 42.81 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata): 74.35 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 10 mg/l Exposure time: 21 d GLP: no

Persistence and degradability

Components:

Fatty acids, C14-18 and C16-18-unsatd., maleated:

Biodegradability	:	Result: Not readily biodegradable. Method: OECD Test Guideline 301 GLP: yes

Xylene, mixture of isomers:

Biodegradability	:	aerobic Result: Readily biodegradable. Method: OECD Test Guideline 301F GLP: yes

2,6-dimethylheptan-4-one:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301D GLP: no

maleic anhydride:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301B GLP: yes

Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: No data available

Components:

Xylene, mixture of isomers:

Bioaccumulation	:	Species: Oncorhynchus mykiss (rainbow trout) Bioconcentration factor (BCF): 25.9 Exposure time: 56 d GLP: no
Partition coefficient: n-octanol/water	:	Pow: 3.2 (20 °C) pH: 7

maleic anhydride:

Partition coefficient: n-octanol/water	:	log Pow: -2.61 (19.8 °C) pH: 4 - 9 Method: OECD Test Guideline 107 GLP: yes

Mobility in soil

Components:

maleic anhydride:

Distribution among environmental compartments	:	Koc: 42, log Koc: 1.63

Other adverse effects

Product:

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

Section 13: Disposal considerations

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

Section 14: Transport information

International Regulations

UNRTDG

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (XYLENE, Diisobutyl ketone)
Class	:	3
Packing group	:	III
Labels	:	3
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	UN 1993
Proper shipping name	:	Flammable liquid, n.o.s. (Xylene, Diisobutyl ketone)
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355

IMDG-Code

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (XYLENE, Diisobutyl ketone)
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no
Remarks	:	IMDG Code segregation group - none

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

NZS 5433

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Xylene, Diisobutyl ketone)
Class	:	3
Packing group	:	III
Labels	:	3
Hazchem Code	:	3Y
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Section 15: Regulatory information

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

HSNO Approval Number

HSR002502 Additives Process Chemicals and Raw Materials Flammable Carcinogenic Group Standard

Tolerable Exposure Limits (TEL)

Chemical name	Environmental compartment	Reference concentration
xylene	Air	0.87 mg/m3
	Water	0.6 mg/l

Environmental Exposure Limits (EEL)

Not applicable

HSW Controls

Certified handler certificate not required.
Tracking hazardous substance not required.
Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

Section 16: Other information

Revision Date	:	22.01.2026
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NZ BEI	:	New Zealand. Biological Exposure Indices
NZ OEL	:	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
NZ OEL / WES-TWA	:	Workplace Exposure Standard - Time Weighted average
NZ OEL / WES-STEL	:	Workplace Exposure Standard - Short-Term Exposure Limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test

population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

NZ / EN