SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

FIRESHIELD 920 KS Base

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant uses

Fire retardant coating

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Manufacturer

Fireshield, a division of Fire Protection Coatings Limited
Level 1, 60 Cashel Street
8013 Christchurch / NEW ZEALAND
Phone 0800 FIRESHIELD (0800 347374)
Homepage www.fireshieldcoatings.com
E-mail info@fireshieldcoatings.com

Address enquiries to

Technical information info@fireshieldcoatings.com

Safety Data Sheet sdb@chemiebuero.de (No dispatch of safety data sheets)

Safety data sheets are available from the supplier.

1.4 Emergency telephone number

Advisory body National Poison Centre (New Zealand): 0800 764 766 (24 hours)

SECTION 2: Hazards identification

Approval

This product is considered to be a hazardous substance to the Hazardous Substances and New Organisms Act (HSNO).
Surface Coatings and Colourants (Carcinogenic) Group Standard 2020 - HSR002679 (consolidated and current)

Hazard classifications

Skin irritation Category 2

Skin sensitisation Category 1

Serious eye damage Category 1

reproductive toxicity Category 2

Hazardous to the aquatic environment acute Category 2

carcinogenicity Category 2

Hazard pictograms

Signal word

DANGER

Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H361f Suspected of damaging fertility.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.
P260 Do not breathe vapours / spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P308+P313 IF exposed or concerned: Get medical advice / attention.
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 / doctor.
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

Other Classifications

There are no other Classifications that are known to apply.

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
15 - < 25	2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane
	CAS: 1675-54-3
10 - 20	Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
5 - < 15	Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate
	CAS: 68937-40-6
3 - 10	Melamine
	CAS: 108-78-1
1 - 10	Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
3 - 10	[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane
	CAS: 2530-83-8
2,5 - < 10	Trimethylolpropan triacrylate
	CAS: 15625-89-5
1 - 5	1,2,3-Propanetriol, glycidyl ethers
	CAS: 90529-77-4

Comment on component parts For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Remove person to fresh air and keep comfortable for breathing.
In the event of symptoms seek medical treatment.

Skin contact In case of contact with skin wash off immediately with soap and water.
Seek medical advice immediately.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical advice immediately.

Ingestion Consult a doctor immediately.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions
Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam.
Dry powder.
Water spray jet.
Carbon dioxide.

Extinguishing media that must not be used Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.
Collect contaminated firefighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Use breathing apparatus if exposed to vapours.
High risk of slipping due to leakage/spillage of product.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

6.2 Environmental precautions

In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Provide suitable vacuuming at the processing area.

Do not eat, drink, smoke or take drugs at work.
Take off contaminated clothing and wash before reuse.
Use barrier skin cream.
After worktime and before work breaks the affected skin areas must be thoroughly cleaned.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.

Do not store together with oxidizing agents.
Do not store together with food and animal food/diet.

Keep container tightly closed.
Keep container in a well-ventilated place.
Keep in a cool place. Store in a dry place.
Protect from heat/overheating.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (NZ)

not applicable

DNEL

Substance
Melamine, CAS: 108-78-1
Industrial, dermal, Acute - systemic effects, 117 mg/kg
Industrial, inhalative, Acute - systemic effects, 82,3 mg/m³
Industrial, inhalative, Long-term - systemic effects, 8,3 mg/m³
Industrial, dermal, Long-term - systemic effects, 11,8 mg/kg
general population, inhalative, Long-term - systemic effects, 1,5 mg/m³
general population, dermal, Long-term - systemic effects, 4,2 mg/kg
general population, oral, Long-term - systemic effects, 0,42 mg/kg
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
Industrial, inhalative, Long-term - systemic effects, 70,5 mg/m³
Industrial, dermal, Long-term - systemic effects, 10 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 17 mg/m³
general population, dermal, Long-term - systemic effects, 5 mg/kg bw/day
general population, oral, Long-term - systemic effects, 5 mg/kg bw/day
Trimethylolpropan triacrylate, CAS: 15625-89-5
Industrial, inhalative, Long-term - systemic effects, 17,1 mg/m³
Industrial, dermal, Long-term - systemic effects, 404 mg/kg bw/day
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
Industrial, inhalative, Long-term - systemic effects, 4.93 mg/m³ (AF=12.5)
Industrial, dermal, Long-term - systemic effects, 0.75 mg/kg bw/d (AF=100)
general population, dermal, Long-term - systemic effects, 89.3 µg/kg bw/d (AF=200)
general population, oral, Long-term - systemic effects, 0,5 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0,87 mg/m³
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
Industrial, inhalative, Long-term - systemic effects, 3,29 mg/m³
Industrial, dermal, Long-term - systemic effects, 6,66 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0,58 mg/m³
general population, dermal, Long-term - systemic effects, 3,3 mg/kg bw/day
general population, oral, Long-term - systemic effects, 0,333 mg/kg bw/day
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
Industrial, inhalative, Long-term - systemic effects, 29,39 mg/m³
Industrial, dermal, Long-term - systemic effects, 104,15 mg/kg bw/day
Industrial, dermal, Acute - local effects, 8,3 µg/cm²
general population, inhalative, Long-term - systemic effects, 8,7 mg/m³
general population, dermal, Long-term - systemic effects, 62,5 mg/kg bw/day
general population, oral, Long-term - systemic effects, 6,25 mg/kg bw/day
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
Industrial, inhalative, Long-term - systemic effects, 7,58 mg/m³
Industrial, dermal, Long-term - systemic effects, 10,75 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 1,87 mg/m³
general population, dermal, Long-term - systemic effects, 5,375 mg/kg bw/day
general population, oral, Long-term - systemic effects, 5,375 mg/kg bw/day

PNEC

Substance
Melamine, CAS: 108-78-1

freshwater, 0,51 mg/L
seawater, 0,051 mg/L
sediment (freshwater), 2,524 mg/kg sediment dw
sediment (seaater), 0,252 mg/kg sediment dw
soil, 0,206 mg/kg soil dw
sewage treatment plants (STP), 200 mg/L
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
freshwater, 0,45 mg/L
seawater, 0,045 mg/L
sewage treatment plants (STP), 8,2 mg/L
sediment (freshwater), 1,6 mg/kg sediment dw
sediment (seaater), 0,16 mg/kg sediment dw
soil, 0,063 mg/kg soil dw
Trimethylolpropan triacrylate, CAS: 15625-89-5
freshwater, 0,87 µg/L
seawater, 0,087 µg/L
sewage treatment plants (STP), 6,25 mg/L
sediment (freshwater), 0,017 mg/kg sediment dw
sediment (seaater), 0,002 mg/kg sediment dw
soil, 0,003 mg/kg soil dw
oral (food), 10 mg/kg
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
freshwater, 0.006 mg/L (AF=50)
seawater, 0.001 mg/L (AF=500)
sewage treatment plants (STP), 10 mg/L (AF=10)
sediment (freshwater), 0,341 mg/kg sediment dw
sediment (seaater), 0,034 mg/kg sediment dw
soil, 0,065 mg/kg soil dw
oral (food), 11 mg/kg food (AF=90)
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
freshwater, 47 µg/L
seawater, 4,7 µg/L
sediment (freshwater), 0,248 mg/kg sediment dw
sediment (seaater), 0,0248 mg/kg sediment dw
soil, 21,9 µg/kg soil dw
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
freshwater, 0,003 mg/L
seawater, 0 mg/L
sewage treatment plants (STP), 10 mg/L
sediment (freshwater), 0,294 mg/kg sediment dw
sediment (seaater), 0,029 mg/kg sediment dw
soil, 0,237 mg/kg soil dw
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
freshwater, 0,004 mg/L
seawater, 0 mg/L
sediment (freshwater), 3,12 mg/kg sediment dw
sediment (seaater), 0,312 mg/kg sediment dw
soil, 0,246 mg/kg soil dw
oral (food), 23,89 mg/kg food

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	0,4mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Protective clothing (EN 340)
Other	Avoid contact with eyes and skin. Do not breathe vapour/spray. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Avoid contact during pregnancy/while nursing.
Respiratory protection	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)
Thermal hazards	not applicable
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Form	liquid
Color	grey
Odor	characteristic
Odour threshold	not applicable
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point or initial boiling point and boiling range [°C]	not determined
Flash point [°C]	not applicable
Flammability	no
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/cm³]	1,25-1,38 (20 °C / 68,0 °F)
Relative density	not determined
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	not determined
Kinematic viscosity	15000 - 26000 mPas (20 °C)
Relative vapour density	not determined
Melting point [°C]	not determined
Auto-ignition temperature [°C]	not self-igniting
Decomposition temperature [°C]	not applicable
Particle characteristics	not applicable

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with strong oxidizing agents, strong acids and alkalies.

10.4 Conditions to avoid

See SECTION 7

10.5 Incompatible materials

Oxidizing agent
Acids
Alkalies

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Product
ATE-mix, oral, > 2000 mg/kg

Substance
Melamine, CAS: 108-78-1
LD50, oral, Rat (female), 3828 mg/kg
LD50, oral, Rat (male), 3161 mg/kg
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
LD50, oral, Rat, 8025 mg/kg (OECD 401)
Trimethylolpropan triacrylate, CAS: 15625-89-5
LD50, oral, Rabbit, ca. 5170 mg/kg
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
LD50, oral, Rat, > 15000 mg/kg
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
LD50, oral, Rat, 3595 mg/kg
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
LD50, oral, Rat, > 5000 mg/kg
1,2,3-Propanetriol, glycidyl ethers, CAS: 90529-77-4
LD50, oral, Rat, > 5000 mg/kg
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
LD50, oral, Rat, 5000 mg/kg

Acute dermal toxicity

Product
ATE-mix, dermal, > 2000 mg/kg

Substance
Melamine, CAS: 108-78-1
LD50, dermal, Rat, > 2000 mg/kg
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
LD50, dermal, Rabbit, 4250 mg/kg (OECD 402)
Trimethylolpropan triacrylate, CAS: 15625-89-5
LD50, dermal, Rabbit, > 5000 mg/kg
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
LD50, dermal, Rabbit, > 23000 mg/kg
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
LD50, dermal, Rat, > 2000 mg/kg
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
LD50, dermal, Rat, > 2000 mg/kg
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
LD50, dermal, Rabbit, > 2000 mg/kg

Acute inhalational toxicity

Product
ATE-mix, inhalativ (vapour), > 20 mg/l 4h

Substance
Melamine, CAS: 108-78-1
LC50, inhalative, Rat, 5,19 mg/l, OECD 403, 4h

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
LC50, inhalativ (mist), Rat, > 5,3 mg/l (4 h) (OECD 403)

Serious eye damage/irritation

Risk of serious damage to eyes.
Based on the available information, the classification criteria are fulfilled.
Toxicological data of complete product are not available.
Calculation method

Substance
Melamine, CAS: 108-78-1
Eye, non-irritating
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
Eye, corrosive
Trimethylolpropan triacrylate, CAS: 15625-89-5
Eye, irritant
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
Eye, irritant
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
Eye, irritant
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
Eye, Rabbit, Study, non-irritating
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
Eye, non-irritating

Skin corrosion/irritation

Irritant
Based on the available information, the classification criteria are fulfilled.
Toxicological data of complete product are not available.
Calculation method

Substance
Melamine, CAS: 108-78-1
Rabbit, OECD 404, non-irritating
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
dermal, non-irritating
Trimethylolpropan triacrylate, CAS: 15625-89-5
dermal, irritant
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
dermal, irritant
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
dermal, irritant
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
Human, Study, irritant
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
dermal, non-irritating

Respiratory or skin sensitisation

May cause an allergic skin reaction.
Based on the available information, the classification criteria are fulfilled.
Toxicological data of complete product are not available.
Calculation method

Substance
Melamine, CAS: 108-78-1
Guinea pig, OECD 406, non-sensitizing
inhalative, non-sensitizing
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
dermal, non-sensitizing
Trimethylolpropan triacrylate, CAS: 15625-89-5
dermal, sensitising

2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
dermal, sensitising
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
dermal, sensitising
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
dermal, mouse, Study, sensitising
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
dermal, non-sensitizing

Specific target organ toxicity — single exposure

Does not contain a relevant substance that meets the classification criteria.
Based on the available information, the classification criteria are not fulfilled.
Toxicological data of complete product are not available.

Specific target organ toxicity — repeated exposure

Based on the available information, the classification criteria are not fulfilled.
Toxicological data of complete product are not available.

Substance
Melamine, CAS: 108-78-1
NOAEL, oral, Rat, 72 mg/kg bw/day (subchronic), adverse effect observed
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
NOAEL, oral, Rat, 1000 mg/kg bw/day (subchronic), The effects observed are not sufficient for classification.
NOAEC, inhalative, Rat, 119 mg/m³ (subacute), The effects observed are not sufficient for classification.
Trimethylolpropan triacrylate, CAS: 15625-89-5
NOAEL, dermal, Rabbit, 500 mg/kg bw/day (subacute), no adverse effect observed
NOAEL, oral, Rat, 173 mg/kg bw/day (subchronic), no adverse effect observed
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
NOAEL, oral, Rat, 50 mg/kg bw/day (chronic), The effects observed are not sufficient for classification.
NOAEL, dermal, Rat, 100 mg/kg bw/day (chronic), The effects observed are not sufficient for classification.
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
NOAEL, oral, Rat, 200 mg/kg bw/day (subacute), no adverse effect observed
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
NOAEL, Rat, 250 mg/kg bw/day, The effects observed are not sufficient for classification.

Mutagenicity

Does not contain a relevant substance that meets the classification criteria.
Based on the available information, the classification criteria are not fulfilled.
Toxicological data of complete product are not available.

Substance
Melamine, CAS: 108-78-1
in vitro, negativ
in vivo, negativ
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
in vitro, The effects observed are not sufficient for classification.
Trimethylolpropan triacrylate, CAS: 15625-89-5
in vitro, no adverse effect observed
in vivo, no adverse effect observed
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
in vitro, The effects observed are not sufficient for classification.
in vivo, no adverse effect observed
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
in vivo, no adverse effect observed
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
Ames-test, adverse effect observed

Reproduction toxicity

Suspected of damaging fertility.
Based on the available information, the classification criteria are fulfilled.
Toxicological data of complete product are not available.
Calculation method

- Fertility

Substance
Melamine, CAS: 108-78-1
NOAEL, oral, Rat, 89 mg/kg bw/day (subchronic), adverse effect observed
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
NOAEL, oral, Rat, 1000 mg/kg bw/day (subchronic), no adverse effect observed
Trimethylolpropan triacrylate, CAS: 15625-89-5
NOAEL, oral, Rat, 300 mg/kg bw/day (subacute), no adverse effect observed
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
NOAEL, oral, Rat, 750 mg/kg bw/day (subchronic), no adverse effect observed, Effect on fertility,
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
NOAEL, oral, Rat, 300 mg/kg bw/day (subacute), no adverse effect observed
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
NOAEL, oral, Rat, 750 mg/kg bw/day, adverse effect observed

- Development

Substance
Melamine, CAS: 108-78-1
NOAEL, oral, Rabbit, 150 mg/kg bw/day (subacute), no adverse effect observed
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
NOAEL, oral, Rat, 1000 mg/kg bw/day (subchronic), no adverse effect observed
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
NOAEL, oral, Rabbit, 180 mg/kg bw/day (subacute), no adverse effect observed, Effect on developmental toxicity,
NOAEL, dermal, Rabbit, 300 mg/kg bw/day (subacute), no adverse effect observed, Effect on developmental toxicity,
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
NOAEL, oral, Rat, 300 mg/kg bw/day (subacute), no adverse effect observed
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
NOAEL, oral, 180 mg/kg bw/day, The effects observed are not sufficient for classification.

Carcinogenicity

Suspected of causing cancer.
Based on the available information, the classification criteria are fulfilled.
Toxicological data of complete product are not available.

Substance
Melamine, CAS: 108-78-1
LOAEL, oral, Rat, 126 mg/kg bw/day (chronic), adverse effect observed
Trimethylolpropan triacrylate, CAS: 15625-89-5
adverse effect observed

Aspiration hazard

Does not contain a relevant substance that meets the classification criteria.
Based on the available information, the classification criteria are not fulfilled.

General remarks

none

SECTION 12: Ecological information

12.1 Toxicity

Substance
Melamine, CAS: 108-78-1
LC50, (96h), Oncorhynchus kisutch, > 3000 mg/L
EC50, (48h), Daphnia magna, 200 mg/L EPA OPP 72-2
NOEC, (21d), Daphnia magna, >= 11 mg/L OECD 211
ErC50, (96h), Pseudokirchneriella subcapitata, 325 mg/L PRO/FT Algae-AC090-6
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane, CAS: 2530-83-8
LC50, (96h), Cyprinus carpio, 55 mg/l (OECD 203)
EC50, (48h), Daphnia magna, 710 mg/l (OECD 202)
EC50, (96h), Pseudokirchneriella subcapitata, 350 mg/l (OECD 201)
Trimethylolpropan triacrylate, CAS: 15625-89-5
LC50, (96h), Brachidanio rerio, 0,87 mg/L OECD 203
EC50, (48h), Daphnia magna, 19,9 mg/l (RL 79/831/EWG)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
LC50, (96h), Fish, 2 mg/L
LC50, (96h), Oncorhynchus mykiss, 1,5 mg/L
EC50, (48h), Daphnia magna, 1,8 mg/L
ErC50, (72h), Algae, 11 mg/L
Reaction products of 2,2-dimethylpropane-1,3-diol with 1-chloro-2,3-epoxypropane
EC50, Daphnia magna, 10 - 100 mg/L OECD 202
EC50, (48h), Invertebrates, 39 - 57 mg/L
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
EC50, (96h), Leuciscus idus, 2,54 mg/L
EC50, (48h), Daphnia magna, 2,55 mg/L
EC50, (72h), Algae, 1,8 mg/L
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, CAS: 68937-40-6
LC50, (96h), Fish, 0,8 mg/L
EC50, (48h), Daphnia magna, 0,2 mg/L
NOEC, (21d), Daphnia magna, 0,0399 mg/L
NOEC, (90d), Pimephales promelas, 0,093 mg/L

12.2 Persistence and degradability

Behaviour in environment compartments not determined

Behaviour in sewage plant not determined

Biological degradability not determined

Substance
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
(28d), 6 - 12 %, OECD 301 F
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
(28d), 16 %, OECD 301 B

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

Substance
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane, CAS: 1675-54-3
log Pow, 2,64 - 3,78
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol (CAS 9003-36-5)
log Pow, 3,3

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

None known.

SECTION 13: Disposal considerations

Restrictions	There are no product-specific restrictions. However, state and local disposal regulations may apply.
Disposal method	Disposal of this product must comply with the requirements of state and local disposal regulations.
Contaminated packaging	Rinse containers with water before disposal. Preferably re-cycle container, otherwise send to landfill or similar.

SECTION 14: Transport information

14.1 UN number

Transport by land according to ADR/RID	3082
Inland navigation (ADN)	3082
Marine transport in accordance with IMDG	3082
Air transport in accordance with IATA	3082

14.2 UN proper shipping name

Transport by land according to ADR/RID	Environmentally hazardous substance, liquid, n.o.s. (Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, Trimethylolpropan triacrylate)
- Classification Code	M6
- Label	
- ADR LQ	5 l
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 3 (-)
Inland navigation (ADN)	Environmentally hazardous substance, liquid, n.o.s. (Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, Trimethylolpropan triacrylate)
- Classification Code	M6
- Label	
Marine transport in accordance with IMDG	Environmentally hazardous substance, liquid, n.o.s. (Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, Trimethylolpropan triacrylate)
- EMS	F-A, S-F
- Label	
- IMDG LQ	5 l
Air transport in accordance with IATA	Environmentally hazardous substance, liquid, n.o.s. (Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate, Trimethylolpropan triacrylate)
- Label	

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	9 (N)
Inland navigation (ADN)	9 (N)
Marine transport in accordance with IMDG	9
Air transport in accordance with IATA	9

14.4 Packing group

Transport by land according to ADR/RID	III
Inland navigation (ADN)	III
Marine transport in accordance with IMDG	III
Air transport in accordance with IATA	III

14.5 Environmental hazards

Transport by land according to ADR/RID	yes
Inland navigation (ADN)	yes
Marine transport in accordance with IMDG	MARINE POLLUTANT
Air transport in accordance with IATA	yes

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

This product is considered to be a hazardous substance to the Hazardous Substances and New Organisms Act (HSNO).
Surface Coatings and Colourants (Carcinogenic) Group Standard 2020 - HSR002679 (consolidated and current)

Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix)

Key workplace requirements are:

MSDS	The content and format of this Safety-Data-Sheet is in accordance with HSNO Approved Code of Practice.
Labelling	No removal of labels and/or decanting of product into other containers can occur.
Emergency plan	No information available.
Approved handler	No information available.
Tracking	No information available.
Bunding & secondary containment	No information available.
Signage	No information available.
Location test certificate	No information available.
Flammable zone	No information available.
Fire extinguisher	No information available.
Note:	Group Standard conditions that must be met: Surface Coatings and Colourants (Carcinogenic) Group Standard 2020 HSR002679 (consolidated and current), Schedule 1
Other Legislation	In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health, Safety in Employment Act and Regulations, local Council Rules and Regional Council Plans.

SECTION 16: Other information

16.1 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.2 Other information

Classification procedure

Skin irritation Category 2: H315 Causes skin irritation. (Calculation method)
Skin sensitisation Category 1: H317 May cause an allergic skin reaction. (Calculation method)
Serious eye damage Category 1: H318 Causes serious eye damage. (Calculation method)
reproductive toxicity Category 2: H361f Suspected of damaging fertility. (Calculation method)
Hazardous to the aquatic environment acute Category 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)
carcinogenicity Category 2: H351 Suspected of causing cancer. (Calculation method)

Modified position

none