SAFETY DATA SHEET

8-810 Fast Performance Hardener

Section 1. Identification

Product name : 8-810 Fast Performance Hardener

Product type : Liquid.

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

Identified uses
Use in coatings - Hardener.

Uses advised against
Not applicable.

Manufacturer : Valspar b.v.
Zuiveringweg 89
8243 PE Lelystad
The Netherlands
tel: +31 (0)320 292200
fax: +31 (0)320 292201

Emergency telephone number : Call: +31 (0)320 292200 (during daytime)

Supplier's details : DBNZ Coatings Limited
176 Ossie James Drive
Hamilton Airport, 3282
NEW ZEALAND
T: +64 7847 0944
E: info@dbnz.co.nz

Emergency telephone number (with hours of operation) : New Zealand Poisons Information Centre: 0800 764766 (24 hrs)

CALL: +(64)-98010034 (Hours of operation - 24 hours)

e-mail address of person responsible for this SDS : msds@de-beer.com

Section 2. Hazards identification

HSNO Classification : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2
RESPIRATORY SENSITISATION - Category 1
SKIN SENSITISATION - Category 1
CARCINOGENICITY - Category 2
REPRODUCTIVE TOXICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
ASPIRATION HAZARD - Category 1
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

This material is classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2012 Transport of Dangerous Goods on Land.

GHS label elements

Section 2. Hazards identification

Signal word : Danger

Hazard statements : Flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
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.
Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Do not apply directly into or onto water. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapour or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Symbol :

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% (w/w)	CAS number
Hexamethylene diisocyanate, oligomers	≥30 - ≤60	28182-81-2
heptan-2-one	≥10 - ≤30	110-43-0
Solvent naphtha (petroleum), heavy arom.	≤10	64742-94-5
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	≤10	53880-05-0
n-butyl acetate	≤10	123-86-4

Section 3. Composition/information on ingredients

xylene	≤5	1330-20-7
Solvent naphtha (petroleum), light arom.	≤5	64742-95-6
2-methoxy-1-methylethyl acetate	≤3	108-65-6
trimethylbenzene	≤2.4	25551-13-7
ethylbenzene	<1	100-41-4
dioctyltin dilaurate	<1	3648-18-8

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation : Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion : May be fatal if swallowed and enters airways.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Over-exposure signs/symptoms

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
reduced foetal weight
increase in foetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced foetal weight
increase in foetal deaths
skeletal malformations

Skin : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Indication of immediate medical attention and special treatment needed, if necessary

Specific treatments : No specific treatment.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Hazchem code : 3Y

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Firefighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Hexamethylene diisocyanate, oligomers	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022). [isocyanates, all (as -NCO)] Skin sensitiser. Inhalation sensitiser. Notes: interim** WES-TWA: 0.02 mg/m³, (measured as -NCO) 8 hours. Form: The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressuren such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure. WES-STEL: 0.07 mg/m³, (measured as -NCO) 15 minutes. Form: The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressuren such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure.
heptan-2-one	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022).** WES-TWA: 233 mg/m³ 8 hours. WES-TWA: 50 ppm 8 hours.
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022). [isocyanates, all (as -NCO)] Skin sensitiser. Inhalation sensitiser. Notes: interim** WES-TWA: 0.02 mg/m³, (measured as -NCO) 8 hours. Form: The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressuren such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure. WES-STEL: 0.07 mg/m³, (measured as -NCO) 15 minutes. Form: The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressuren such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure.
n-butyl acetate	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022).**

Section 8. Exposure controls/personal protection

	WES-TWA: 150 ppm 8 hours. WES-TWA: 713 mg/m³ 8 hours. WES-STEL: 950 mg/m³ 15 minutes. WES-STEL: 200 ppm 15 minutes.
xylene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022). [xylene (o-, m-, p-isomers)] Notes: See Notice of Intended Changes.** WES-TWA: 217 mg/m³, 0 times per shift, 8 hours. WES-TWA: 50 ppm, 0 times per shift, 8 hours.
2-methoxy-1-methylethyl acetate	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** STEL: 548 mg/m³ 15 minutes. TWA: 50 ppm 8 hours. TWA: 274 mg/m³ 8 hours. STEL: 100 ppm 15 minutes.
trimethylbenzene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022). [Trimethyl benzene]** WES-TWA: 25 ppm 8 hours. WES-TWA: 123 mg/m³ 8 hours.
ethylbenzene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022). Absorbed through skin.** WES-STEL: 176 mg/m³ 15 minutes. WES-STEL: 40 ppm 15 minutes. WES-TWA: 88 mg/m³ 8 hours. WES-TWA: 20 ppm 8 hours.
dioctyltin dilaurate	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022). [tin, organic compounds as Sn] Absorbed through skin.** WES-TWA: 0.1 mg/m³, (as Sn) 8 hours. WES-STEL: 0.2 mg/m³, (as Sn) 15 minutes.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Recommended EN 374 butyl rubber polyvinyl alcohol (PVA) Viton® >= 0.7 mm
4 - 8 hours (breakthrough time): Recommended EN 374 neoprene >= 0.7 mm
< 1 hour (breakthrough time): Conditionally suitable materials for protective gloves; EN 374: Nitrile rubber - NBR (>= 0.35 mm). Only suitable as splash protection. Only suitable for brief exposure. In the event of contamination, change protective gloves immediately.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Recommended: Cotton or cotton/synthetic overalls or coveralls are normally suitable.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: full-face mask supplied-air respirator

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Colour : Colourless.

Odour : Pungent. Sweetish.

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not applicable.

Boiling point, initial boiling point, and boiling range : >100°C (>212°F)

Flash point : Closed cup: 23°C (73.4°F)

Evaporation rate : 1 (butyl acetate = 1)

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Lower: 0.8%
Upper: 7.6%

Vapour pressure : 1.3 kPa (10 mm Hg)

Relative vapour density : 4 [Air = 1]

Relative density : 1.013

Density : 1.013 g/cm³

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

Solubility in water : Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Miscible with water : No.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : 333°C (631.4°F)

Decomposition temperature : Not applicable.

Viscosity : Kinematic (40°C (104°F)): 4 mm^2/s (4 cSt)

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on likely routes of exposure

Inhalation : Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion : May be fatal if swallowed and enters airways.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
reduced foetal weight
increase in foetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced foetal weight
increase in foetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene diisocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	18500 mg/m³	1 hours
	LC50 Inhalation Dusts and mists	Rat	2.18 mg/l	4 hours
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
heptan-2-one	LC50 Inhalation Vapour	Rat	16.8 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	1600 mg/kg	-
Solvent naphtha (petroleum), heavy arom.	LC50 Inhalation Dusts and mists	Rat	>4688 mg/m³	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Oral	Rat	>14000 mg/kg	-
n-butyl acetate	LC50 Inhalation Gas.	Rat	390 ppm	4 hours
	LC50 Inhalation Vapour	Rat	>21.1 mg/l	4 hours
	LD50 Dermal	Rabbit	>14112 mg/kg	-
	LD50 Oral	Rat	10760 mg/kg	-
xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapour	Rat - Male	29000 mg/l	4 hours
	LD50 Dermal	Rabbit	12126 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
Solvent naphtha (petroleum), light arom.	LC50 Inhalation Vapour	Rat	6193 mg/m³	4 hours
	LD50 Dermal	Rabbit	>3160 mg/kg	-
	LD50 Oral	Rat	3592 mg/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
trimethylbenzene	LD50 Oral	Rat	8970 mg/kg	-
ethylbenzene	LC50 Inhalation Vapour	Rat	6350 ppm	4 hours
	LD50 Dermal	Rabbit	12126 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
dioctyltin dilaurate	LD50 Oral	Rat	6450 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hexamethylene diisocyanate, oligomers	Eyes - Mild irritant	Rabbit	-	-	-
	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	4 hours	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
heptan-2-one	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
Solvent naphtha (petroleum), heavy arom.	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-
n-butyl acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-

Section 11. Toxicological information

	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Solvent naphtha (petroleum), light arom.	Eyes - Mild irritant	Rabbit	-	24 hours 100 uL	-
trimethylbenzene	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Hexamethylene diisocyanate, oligomers	skin	Guinea pig	Sensitising
	skin	Mouse	Sensitising

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Inhalation : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Ingestion : No known significant effects or critical hazards.

Skin contact : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Eye contact : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene diisocyanate, oligomers	Sub-chronic NOAEL Inhalation Dusts and mists	Rat - Male, Female	3.3 mg/m³	90 days; 6 hours per day

Carcinogenicity

Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Hexamethylene diisocyanate, oligomers	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative

Section 11. Toxicological information

Teratogenicity

Not available.

Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Solvent naphtha (petroleum), heavy arom. 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Category 3 Category 3	- -	Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene ethylbenzene dioctyltin dilaurate	Category 2 Category 2 Category 1	- - -	- - -

Aspiration hazard

Product/ingredient name
Solvent naphtha (petroleum), heavy arom. Solvent naphtha (petroleum), light arom. trimethylbenzene

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
8-810 Fast Performance Hardener	5669	23121.9	89292.1	115.9	4.2
Hexamethylene diisocyanate, oligomers	N/A	N/A	N/A	N/A	2.18
heptan-2-one	1600	N/A	N/A	N/A	N/A
n-butyl acetate	10760	N/A	4500	N/A	N/A
xylene	500	1100	N/A	29000	N/A
Solvent naphtha (petroleum), light arom.	3592	N/A	N/A	6.193	N/A
2-methoxy-1-methylethyl acetate	8532	N/A	N/A	N/A	N/A
trimethylbenzene	8970	N/A	N/A	11	N/A
ethylbenzene	3500	12126	N/A	11	N/A
dioctyltin dilaurate	6450	N/A	N/A	N/A	N/A

Section 12. Ecological information

Ecotoxicity : This material is harmful to aquatic life with long lasting effects.

Aquatic and terrestrial toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers	Acute EC50 >1000 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 >100 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 >100 mg/l	Fish - Danio rerio	96 hours
heptan-2-one	Acute LC50 131000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Solvent naphtha (petroleum), heavy arom.	Acute EC50 11 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3 to 10 mg/l	Daphnia - Daphnia magna	48 hours

Section 12. Ecological information

	Acute LC50 2 to 5 mg/l	Fish - Oncorhynchus mykiss	96 hours
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Acute EC50 >100 mg/l	Daphnia	48 hours
	Acute EC50 >100 mg/l	Fish	96 hours
n-butyl acetate	Acute EC50 397 mg/l	Algae - Selenastrum capricornutum	72 hours
	Acute EC50 44 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 18 mg/l	Fish - Pimephales promelas	96 hours
	Acute NOEC 200 mg/l	Algae	72 hours
xylene	Acute EC50 1 to 10 mg/l	Algae	72 hours
	Acute EC50 1 to 10 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Solvent naphtha (petroleum), light arom.	Acute EC50 2.9 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3.2 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.2 mg/l	Fish - Oncorhynchus mykiss	96 hours
	Acute NOEC >1 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
2-methoxy-1-methylethyl acetate	Acute EC50 >1000 mg/l	Algae - Pseudokirchnerella subcapitata	96 hours
	Acute EC50 408 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 134 mg/l	Fish - Oncorhynchus mykiss	96 hours
trimethylbenzene	Acute LC50 5600 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
ethylbenzene	Acute EC50 4900 µg/l Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 7700 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 6.53 mg/l Marine water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2.93 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Hexamethylene diisocyanate, oligomers	EU 67/548/EEC ANNEX V, C.4.E.	1 % - Not readily - 28 days	-	-
heptan-2-one	-	69 % - Readily - 28 days	-	-
Solvent naphtha (petroleum), heavy arom.	-	50 % - Readily - 28 days	-	Fresh water
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	5 % - 28 days	-	-
	OECD 301F Ready Biodegradability - Manometric Respirometry Test	1 % - 28 days	-	-
n-butyl acetate	OECD 301D Ready Biodegradability - Closed Bottle Test	>80 % - 5 days	-	-
Solvent naphtha (petroleum), light arom.	-	78 % - Readily - 28 days	-	Fresh water

Section 12. Ecological information

2-methoxy-1-methylethyl acetate	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	100 % - 28 days	-	-
	OECD 301F Ready Biodegradability - Manometric Respirometry Test	83 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	Fresh water 7.7 days, 23°C	-	Not readily
heptan-2-one	-	-	Readily
Solvent naphtha (petroleum), heavy arom.	-	-	Readily
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	-	-	Not readily
n-butyl acetate	-	-	Readily
Solvent naphtha (petroleum), light arom.	-	-	Readily
2-methoxy-1-methylethyl acetate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Hexamethylene diisocyanate, oligomers	5.54	367.7	low
heptan-2-one	2.26	-	low
Solvent naphtha (petroleum), heavy arom.	2.8 to 6.5	99 to 5780	high
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	14.48	-	high
n-butyl acetate	2.3	-	low
xylene	3.12	8.1 to 25.9	low
Solvent naphtha (petroleum), light arom.	-	10 to 2500	high
2-methoxy-1-methylethyl acetate	1.2	-	low
trimethylbenzene	3.4 to 3.8	-	low
ethylbenzene	3.6	-	low
dioctyltin dilaurate	-	<100	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	New Zealand	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	Paint related material
Transport hazard class(es)	3 	3 	3 
Packing group	III	III	III
Environmental hazards	No.	No.	No.

Additional information

New Zealand : **Hazchem code** 3Y
Special provisions 163, 223

IMDG : **Emergency schedules** F-E, _S-E_
Special provisions 163, 223, 367, 955

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.
Special provisions A3, A72, A192

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

HSNO Approval Number : Not available.

HSNO Group Standard : Not available.

HSNO Classification : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2
RESPIRATORY SENSITISATION - Category 1
SKIN SENSITISATION - Category 1
CARCINOGENICITY - Category 2
REPRODUCTIVE TOXICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
ASPIRATION HAZARD - Category 1
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Eurasian Economic Union : **Russian Federation inventory**: All components are listed or exempted.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : All components are active or exempted.

Viet Nam : All components are listed or exempted.

Section 16. Other information

History

Date of printing : 7/17/2023

Date of issue/Date of revision : 7/17/2023

Date of previous issue : 2/22/2023

Version : 1

Section 16. Other information

Key to abbreviations : ADG = Australian Dangerous Goods
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SGG = Segregation Group
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.