# SAFETY DATA SHEET

47-460 Air Dry Hardener Slow

## Section 1. Identification

**Product name** : 47-460 Air Dry Hardener Slow

**Product type** : Liquid.

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

**Identified uses**

Use in coatings - Hardener.

**Supplier**

**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
6 Killarney Lane
Hamilton 3204
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 - SINGLE EXPOSURE - Category 2
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1.8%

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**

**Signal word** : Danger

# Section 2. Hazards identification

**Hazard statements** : Flammable liquid and vapour.
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.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

**Precautionary statements**

**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. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

**Response** : Collect spillage. IF exposed or concerned: Call a POISON CENTER or doctor. 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 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 |
|---|---|---|
| Aliphatic polyisocyanate | >58.482 | 28182-81-2 |
| Solvent naphtha (petroleum), heavy arom. | 15.556 | 64742-94-5 |
| heptan-2-one | 11.503 | 110-43-0 |
| Solvent naphtha (petroleum), light arom. | 3.4399 | 64742-95-6 |
| Aliphatic polyisocyanate 2 | 3.4061 | 53880-05-0 |
| 2-butoxyethyl acetate | 2.0926 | 112-07-2 |
| naphthalene | 1.7686 | 91-20-3 |
| trimethylbenzene | 1.2587 | 25551-13-7 |
| xylene | 0.15734 | 1330-20-7 |
| hexamethylene-di-isocyanate | <0.1172 | 822-06-0 |

**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** : 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. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. 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. If necessary, call a poison center or physician. 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. If necessary, call a poison center or physician.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Inhalation** : Harmful if inhaled. May cause damage to organs following a single exposure if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Ingestion** : May cause damage to organs following a single exposure if swallowed.

**Skin contact** : May cause damage to organs following a single exposure in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

**Eye contact** : Causes serious eye irritation.

### Over-exposure signs/symptoms

**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:
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

# Section 4. First aid measures

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

**Specific treatments** : Not available.

**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. This material is toxic 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.

**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** : 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. Collect spillage.

**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** : 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 ingest. 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.

**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 |
|---|---|
| Aliphatic polyisocyanate | **NZ HSWA 2015 (New Zealand, 11/2018). Skin sensitiser.** WES-TWA: 0.02 mg/m³, (measured as -NCO) 8 hours. WES-STEL: 0.07 mg/m³, (measured as -NCO) 15 minutes. |
| heptan-2-one | **NZ HSWA 2015 (New Zealand, 11/2018).** WES-TWA: 233 mg/m³ 8 hours. WES-TWA: 50 ppm 8 hours. |
| Aliphatic polyisocyanate 2 | **NZ HSWA 2015 (New Zealand, 11/2018). Skin sensitiser.** WES-TWA: 0.02 mg/m³, (measured as -NCO) 8 hours. WES-STEL: 0.07 mg/m³, (measured as -NCO) 15 minutes. |
| 2-butoxyethyl acetate | **ACGIH TLV (United States, 3/2019). Notes: Refers to Appendix A -- Carcinogens. ACGIH 2003 Adoption** TWA: 20 ppm 8 hours. |
| naphthalene | **NZ HSWA 2015 (New Zealand, 11/2018).** WES-STEL: 79 mg/m³ 15 minutes. WES-STEL: 15 ppm 15 minutes. WES-TWA: 52 mg/m³ 8 hours. WES-TWA: 10 ppm 8 hours. |
| trimethylbenzene | **NZ HSWA 2015 (New Zealand, 11/2018).** WES-TWA: 25 ppm 8 hours. WES-TWA: 123 mg/m³ 8 hours. |
| xylene | **NZ HSWA 2015 (New Zealand, 11/2018). Notes: See Notice of Intended Changes.** WES-TWA: 217 mg/m³, 0 times per shift, |

# Section 8. Exposure controls/personal protection

| | |
|---|---|
| hexamethylene-di-isocyanate | 8 hours.<br>WES-TWA: 50 ppm, 0 times per shift, 8 hours.<br>**NZ HSWA 2015 (New Zealand, 11/2018). Skin sensitiser. Notes: measured as -NCO**<br>WES-STEL: 0.07 mg/m³, (measured as -NCO) 15 minutes.<br>WES-TWA: 0.02 mg/m³, (measured as -NCO) 8 hours. |

**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.

**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

**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.

**Eye 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** : 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.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Colour** : Not available.

**Odour** : Not available.

**Odour threshold** : Not available.

**pH** : Not applicable.

**Melting point** : Not available.

**Boiling point** : >100°C (>212°F)

**Flash point** : Closed cup: 43°C (109.4°F)

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapour pressure** : Not available.

**Vapour density** : Not available.

**Relative density** : 1.022

**Solubility** : Insoluble in the following materials: cold water and hot water.

**Solubility in water** : Not available.

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

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

**Flow time (ISO 2431)** : Not available.

**Aerosol product**

**Type of aerosol** : Not applicable.

**Heat of combustion** : Not available.

**Ignition distance** : Not applicable.

**Enclosed space ignition - Time equivalent** : Not applicable.

**Enclosed space ignition - Deflagration density** : Not applicable.

**Flame height** : Not applicable.

**Flame duration** : Not applicable.

## Section 10. Stability and reactivity

**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.

**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 damage to organs following a single exposure if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Ingestion** : May cause damage to organs following a single exposure if swallowed.

**Skin contact** : May cause damage to organs following a single exposure in contact with skin. 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:
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

**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 |
|---|---|---|---|---|
| Aliphatic polyisocyanate | 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 | - |
| 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 | - |
| 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), light arom. | LC50 Inhalation Vapour | Rat | 6193 mg/m³ | 4 hours |
| | LD50 Dermal | Rabbit | >3160 mg/kg | - |
| | LD50 Oral | Rat | 3592 mg/kg | - |
| Aliphatic polyisocyanate 2 | LC50 Inhalation Dusts and mists | Rat | >5 mg/l | 4 hours |
| | LD50 Oral | Rat | >14000 mg/kg | - |
| 2-butoxyethyl acetate | LD50 Dermal | Rabbit | 1500 mg/kg | - |
| | LD50 Oral | Rat | 1880 mg/kg | - |
| naphthalene | LD50 Dermal | Rat | >2500 mg/kg | - |
| trimethylbenzene | LD50 Oral | Rat | 8970 mg/kg | - |
| xylene | LC50 Inhalation Gas. | Rat | 6350 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 12126 mg/kg | - |
| | LD50 Oral | Rat | 3523 to 4000 mg/kg | - |
| hexamethylene-di- | LC50 Inhalation Dusts and mists | Rat | 0.124 mg/l | 4 hours |

# Section 11. Toxicological information

| | | | | |
|---|---|---|---|---|
| isocyanate | LD50 Dermal<br>LD50 Oral | Rat<br>Rat | >7000 mg/kg<br>746 mg/kg | -<br>- |

## Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Aliphatic polyisocyanate | Skin - Mild irritant | Rabbit | - | 4 hours | - |
| | Eyes - Mild irritant | Rabbit | - | - | - |
| Solvent naphtha (petroleum), heavy arom. | Skin - Mild irritant | Rabbit | - | 24 hours 500 microliters | - |
| heptan-2-one | Skin - Mild irritant | Rabbit | - | 24 hours 14 milligrams | - |
| 2-butoxyethyl acetate | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| naphthalene | Skin - Mild irritant | Rabbit | - | 495 milligrams | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 0.05 Mililiters | - |
| trimethylbenzene | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| xylene | Skin - Mild irritant | Rat | - | 8 hours 60 microliters | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 100 Percent | - |
| | Eyes - Mild irritant | Rabbit | - | 87 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 milligrams | - |

## Sensitisation

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| Aliphatic polyisocyanate | skin<br>skin | Mouse<br>Guinea pig | Sensitising<br>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

# Section 11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Aliphatic polyisocyanate | 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 |
|---|---|---|---|
| Aliphatic polyisocyanate | OECD 471 Bacterial Reverse Mutation Test | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Negative |
| | OECD 476 In vitro Mammalian Cell Gene Mutation Test | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Metabolic activation: +/- | Negative |

## Teratogenicity

Not available.

## Reproductive toxicity

Not available.

## Specific target organ toxicity

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| 2-butoxyethyl acetate | Category 2 | inhalation | - |
| naphthalene | Category 1 | oral, inhalation | - |
| xylene | Category 2 | oral, inhalation | - |
| hexamethylene-di-isocyanate | Category 1 | inhalation | - |

## Aspiration hazard

| Name |
|---|
| Solvent naphtha (petroleum), heavy arom.<br>Solvent naphtha (petroleum), light arom.<br>trimethylbenzene |

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral | 8494.75 mg/kg |
| Dermal | 33491.7 mg/kg |
| Inhalation (vapours) | 101.66 mg/l |
| Inhalation (dusts and mists) | 3.71 mg/l |

# Section 12. Ecological information

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

## Aquatic and terrestrial toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Aliphatic polyisocyanate | 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 |
| 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 |
| | Acute LC50 2 to 5 mg/l | Fish - Oncorhynchus mykiss | 96 hours |
| heptan-2-one | Acute LC50 131000 to 137000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |

# Section 12. Ecological information

| | | | |
|---|---|---|---|
| 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 |
| Aliphatic polyisocyanate 2 | Acute EC50 >100 mg/l | Daphnia | 48 hours |
| | Acute EC50 >100 mg/l | Fish | 96 hours |
| 2-butoxyethyl acetate | Acute EC50 1570 mg/l | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 37 mg/l | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 22 mg/l | Fish - Pimephales promelas | 96 hours |
| naphthalene | Acute EC50 1.96 mg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 2350 µg/l Marine water | Crustaceans - Palaemonetes pugio | 48 hours |
| | Acute LC50 213 µg/l Fresh water | Fish - Melanotaenia fluviatilis - Larvae | 96 hours |
| trimethylbenzene | Acute LC50 5600 µg/l Marine water | Crustaceans - Palaemonetes pugio | 48 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 1 to 10 mg/l | Fish | 96 hours |

## Persistence/degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| Aliphatic polyisocyanate | EU 67/548/EEC ANNEX V, C.4.E. | 1 % - Not readily - 28 days | - | - |
| Solvent naphtha (petroleum), heavy arom. | - | 50 % - Readily - 28 days | - | Fresh water |
| heptan-2-one | - | 69 % - Readily - 28 days | - | - |
| Solvent naphtha (petroleum), light arom. | - | 78 % - Readily - 28 days | - | Fresh water |
| Aliphatic polyisocyanate 2 | OECD 302C Inherent Biodegradability: Modified MITI Test (II) | 5 % - 28 days | - | - |
| | OECD 301F Ready Biodegradability - Manometric Respirometry Test | 1 % - 28 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Aliphatic polyisocyanate | Fresh water 7.7 days, 23°C | - | Not readily |
| Solvent naphtha (petroleum), heavy arom. | - | - | Readily |
| heptan-2-one | - | - | Readily |
| Solvent naphtha (petroleum), light arom. | - | - | Readily |
| Aliphatic polyisocyanate 2 | - | - | Not readily |
| 2-butoxyethyl acetate | - | 90.4%; 28 day(s) | - |

## Bioaccumulative potential

# Section 12. Ecological information

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Aliphatic polyisocyanate | 5.54 | 367.7 | low |
| Solvent naphtha (petroleum), heavy arom. | 2.8 to 6.5 | 99 to 5780 | high |
| heptan-2-one | 2.26 | - | low |
| Solvent naphtha (petroleum), light arom. | - | 10 to 2500 | high |
| 2-butoxyethyl acetate | 1.51 | - | low |
| naphthalene | 3.4 | 36.5 to 168 | low |
| trimethylbenzene | 3.4 to 3.8 | - | low |
| xylene | 3.12 | 8.1 to 25.9 | low |
| hexamethylene-di-isocyanate | 0.02 | 57.63 | 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

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label |
|---|---|---|---|---|---|
| New Zealand Class | UN1263 | PAINT RELATED MATERIAL | 3 | III |  |
| ADG Class | UN1263 | PAINT RELATED MATERIAL | 3 | III |  |
| UN Class | UN1263 | PAINT RELATED MATERIAL | 3 | III |  |
| ADR/RID Class | UN1263 | PAINT RELATED MATERIAL | 3 | III |  |
| IATA Class | UN1263 | Paint related material | 3 | III |  |
| | | | | | |

# Section 14. Transport information

| | | | | | |
|---|---|---|---|---|---|
| **IMDG Class** | UN1263 | PAINT RELATED MATERIAL | 3 | III |  |

**Additional information**

**New Zealand Class** : The marine pollutant mark is not required when transported by road or rail.
**Hazchem code** 3Y
**Special provisions** 163, 223

**ADG Class** : **Hazchem code** •3Y
**Special provisions** 163, 223

**UN Class** : **Special provisions** 163, 223

**ADR/RID Class** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
**Hazard identification number** 30
**Limited quantity** 5 L
**Special provisions** 163, 640E, 650
**Tunnel code** (D/E)

**IATA Class** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
**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

**IMDG Class** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
**Emergency schedules** F-E, _S-E_
**Special provisions** 163, 223, 955

PG* : Packing group

**Transport in bulk according to IMO instruments** : Not available.

# Section 15. Regulatory information

**HSNO Approval Number** : HSR002662

**HSNO Group Standard** : Surface Coatings and Colourants

**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 - SINGLE EXPOSURE - Category 2
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

**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.

# Section 15. Regulatory information

**UNECE Aarhus Protocol on POPs and Heavy Metals**

| Ingredient name | List name | Status |
|---|---|---|
| naphthalene | POPs - Annex 3 | Listed |

**Inventory list**

**Australia** : All components are listed or exempted.

**Canada** : All components are listed or exempted.

**China** : All components are listed or exempted.

**Europe** : All components are listed or exempted.

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

**Malaysia** : 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** : All components are listed or exempted.

**United States** : Not determined.

**Viet Nam** : Not determined.

# Section 16. Other information

**History**

**Date of printing** : 6/4/2022

**Date of issue/Date of revision** : 6/4/2022

**Date of previous issue** : 4/12/2022

**Version** : 1

**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
UN = United Nations

**References** : Not available.

**Indicates information that has changed from previously issued version.**

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