

SAFETY DATA SHEET

ISOMAP P23 HARDENER

Section 1. Identification

ISOMAP P23 HARDENER
12023000D

: Product identifier
: SDS code

Recommended use of the chemical and restrictions on use

Identified uses

Paint. Professional use Industrial use

All other uses

Solvent borne primer

: Product use

Supplier's details

MAPAERO SAS
10, Avenue de la Rijole CS30098
09103 PAMIERS Cedex
France

PSRA_PAMIERS@akzonobel.com

: Importer
: e-mail address of person
responsible for this SDS
: Emergency telephone
number

+33 (0)5 34 01 34 01
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Section 2. Hazard identification

FLAMMABLE LIQUIDS - Category 2
ACUTE TOXICITY (dermal) - Category 5
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract
irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -
Category 3

: Classification of the
substance or mixture

GHS label elements



: Hazard pictograms

Danger

: Signal word

Section 2. Hazard identification

Highly flammable liquid and vapor. : **Hazard statements**
 May be harmful in contact with skin.
 Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye irritation.
 May cause respiratory irritation.
 May cause drowsiness or dizziness.
 Suspected of causing cancer.

Precautionary statements

Obtain special instructions before use. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing vapor. Wash hands thoroughly after handling. : **Prevention**

IF exposed or concerned: Get medical advice or attention. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. 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. : **Response**

Store in a well-ventilated place. Keep container tightly closed. Keep cool. : **Storage**

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

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

Section 3. Composition/information on ingredients

Mixture : **Substance/mixture**

CAS number	%	Ingredient name
28182-81-2	≥25 - <30	Hexamethylene diisocyanate, oligomers
108-65-6	≥10 - ≤25	2-methoxy-1-methylethyl acetate
1330-20-7	≥10 - ≤25	xylene
108-10-1	≥10 - ≤20	4-methylpentan-2-one
100-41-4	≤6	ethylbenzene
108-88-3	≤0.3	toluene

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

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. : **Eye contact**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. : **Inhalation**
 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

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Date of previous issue : 1-10-2022 2/15

Section 4. First aid measures

be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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.

: **Skin contact**

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

: **Ingestion**

Most important symptoms/effects, acute and delayed

Potential acute health effects

Causes serious eye irritation.

: **Eye contact**

Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

: **Inhalation**

May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

: **Skin contact**

Can cause central nervous system (CNS) depression.

: **Ingestion**

Over-exposure signs/symptoms

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

: **Eye contact**

Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

: **Inhalation**

Adverse symptoms may include the following:
irritation
redness

: **Skin contact**

No specific data.

: **Ingestion**

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

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.

: **Notes to physician**

No specific treatment.

: **Specific treatments**

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.

: **Protection of first-aiders**

See toxicological information (Section 11)

Date of issue/*Date of revision* : 21-10-2022

Version : 1.01

Date of previous issue : 1-10-2022

3/15

Section 5. Fire-fighting measures

Extinguishing media

Use dry chemical, CO₂, water spray (fog) or foam.

: **Suitable extinguishing media**

Do not use water jet.

: **Unsuitable extinguishing media**

Highly flammable liquid and vapor. 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.

: **Specific hazards arising from the chemical**

Decomposition products may include the following materials:

carbon dioxide

carbon monoxide

nitrogen oxides

: **Hazardous thermal decomposition products**

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.

: **Special protective actions for fire-fighters**

Use water spray to keep fire-exposed containers cool.

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

: **Special protective equipment for fire-fighters**

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

: **For non-emergency personnel**

If specialized 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".

: **For emergency responders**

Avoid dispersal of spilled 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).

: **Environmental precautions**

Methods and materials for containment and cleaning up

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.

: **Small spill**

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach 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 spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

: **Large spill**

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. 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.

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.

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 oxidizing 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

: **Protective measures**

: **Advice on general occupational hygiene**

: **Conditions for safe storage, including any incompatibilities**

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Exposure limits	Ingredient name
EU OEL (Europe, 2/2017). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 50 ppm 8 hours. TWA: 275 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m ³ 15 minutes.	2-methoxy-1-methylethyl acetate
EU OEL (Europe, 10/2019). Absorbed through skin. Notes: list of indicative occupational exposure limit values STEL: 442 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 221 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.	xylene
EU OEL (Europe, 10/2019). Notes: list of indicative occupational exposure limit values STEL: 208 mg/m ³ 15 minutes. STEL: 50 ppm 15 minutes. TWA: 83 mg/m ³ 8 hours. TWA: 20 ppm 8 hours.	4-methylpentan-2-one
EU OEL (Europe, 10/2019). Absorbed through skin. Notes: list of indicative	ethylbenzene

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Date of previous issue : 1-10-2022

5/15

Section 8. Exposure controls/personal protection

occupational exposure limit values

STEL: 884 mg/m³ 15 minutes.

STEL: 200 ppm 15 minutes.

TWA: 442 mg/m³ 8 hours.

TWA: 100 ppm 8 hours.

EU OEL (Europe, 10/2019). Absorbed through skin. Notes: list of indicative occupational exposure limit values

STEL: 384 mg/m³ 15 minutes.

STEL: 100 ppm 15 minutes.

TWA: 192 mg/m³ 8 hours.

TWA: 50 ppm 8 hours.

toluene

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, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

: **Appropriate engineering 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.

: **Environmental exposure controls**

Individual protection 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.

: **Hygiene measures**

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.

: **Eye/face protection**

Skin 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.

: **Hand 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.

: **Body 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.

: **Other skin 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.

: **Respiratory protection**

Section 9. Physical and chemical properties and safety characteristics

Appearance

Liquid.	: Physical state
Colorless.	: Color
Characteristic.	: Odor
Not available.	: Odor threshold
Not available.	: pH
Not available.	: Melting point/freezing point
Not available.	: Boiling point
Closed cup: 22°C (71.6°F)	: Flash point
Not available.	: Evaporation rate
Not available.	: Flammability
Greatest known range: Lower: 1.4% Upper: 7.5% (4-methylpentan-2-one)	: Lower and upper explosion limit/flammability limit
Not available.	: Vapor pressure
Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate). Weighted average: 3.94 (Air = 1)	: Relative vapor density
Not available.	: Relative density
Insoluble in the following materials: cold water.	: Solubility
Not available.	: Partition coefficient: n-octanol/water
Not available.	: Auto-ignition temperature
Not available.	: Decomposition temperature
Kinematic (room temperature): 0.53 cm ² /s (53 cSt)	: Viscosity
Kinematic (40°C (104°F)): 0.51 cm ² /s (51 cSt)	
Not available.	: Flow time (ISO 2431)
0.937 g/cm ³	: Density

Section 10. Stability and reactivity

No specific test data related to reactivity available for this product or its ingredients.	: Reactivity
The product is stable.	: Chemical stability
Under normal conditions of storage and use, hazardous reactions will not occur.	: Possibility of hazardous reactions
Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.	: Conditions to avoid
Reactive or incompatible with the following materials: oxidizing materials	: Incompatible materials
Under normal conditions of storage and use, hazardous decomposition products should not be produced.	: Hazardous decomposition products

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Exposure	Dose	Species	Result	Product/ingredient name	
1 hours	18500 mg/m ³	Rat	LC50 Inhalation Dusts and mists	Hexamethylene diisocyanate, oligomers xylene	
4 hours	6700 ppm	Rat	LC50 Inhalation Gas.		
4 hours	5000 ppm	Rat	LC50 Inhalation Gas.		
4 hours	6670 ppm	Rat	LC50 Inhalation Gas.		
-	1548 mg/kg	Mouse	LD50 Intraperitoneal		
-	1548 mg/kg	Mouse	LD50 Intraperitoneal		
-	2459 mg/kg	Rat	LD50 Intraperitoneal		
-	2119 mg/kg	Mouse	LD50 Oral		
-	4300 mg/kg	Rat	LD50 Oral		
-	4300 mg/kg	Rat	LD50 Oral		
-	1700 mg/kg	Rat	LD50 Subcutaneous	4-methylpentan-2-one	
-	800 mg/kg	Guinea pig	LD50 Intraperitoneal		
-	268 mg/kg	Mouse	LD50 Intraperitoneal		
-	400 mg/kg	Rat	LD50 Intraperitoneal		
-	1600 mg/kg	Guinea pig	LD50 Oral		
-	1900 mg/kg	Mouse	LD50 Oral		
-	2850 mg/kg	Mouse	LD50 Oral		
-	2080 mg/kg	Rat	LD50 Oral		
-	4600 mg/kg	Rat	LD50 Oral		
4 hours	4000 ppm	Rabbit	LC50 Inhalation Gas.		ethylbenzene
2 hours	35500 mg/m ³	Mouse	LC50 Inhalation Vapor		
2 hours	55000 mg/m ³	Rat	LC50 Inhalation Vapor		
-	>5000 mg/kg	Rabbit	LD50 Dermal		
-	17800 uL/kg	Rabbit	LD50 Dermal		
-	2624 uL/kg	Mouse	LD50 Intraperitoneal		
-	3500 mg/kg	Rat	LD50 Oral		
-	3500 mg/kg	Rat	LD50 Oral		
24 hours	400 ppm	Mouse	LC50 Inhalation Gas.	toluene	
2 hours	30000 mg/m ³	Mouse	LC50 Inhalation Vapor		
7 hours	19900 mg/m ³	Mouse	LC50 Inhalation Vapor		
4 hours	49 g/m ³	Rat	LC50 Inhalation Vapor		
-	14100 uL/kg	Rabbit	LD50 Dermal		
-	500 mg/kg	Guinea pig	LD50 Intraperitoneal		
-	59 mg/kg	Mouse	LD50 Intraperitoneal		
-	1332 mg/kg	Rat	LD50 Intraperitoneal		
-	1960 mg/kg	Rat	LD50 Intravenous		
-	636 mg/kg	Rat	LD50 Oral		
-	2 g/kg	Mouse	LD50 Route of exposure unreported		
-	6900 mg/kg	Rat	LD50 Route of exposure unreported		
-	2250 mg/kg	Mouse	LD50 Subcutaneous		

Irritation/Corrosion

Observation	Exposure	Score	Species	Result	Product/ingredient name
-	100 mg	-	Rabbit	Eyes - Moderate irritant	Hexamethylene diisocyanate, oligomers
-	500 mg	-	Rabbit	Skin - Moderate irritant	
-	87 mg	-	Rabbit	Eyes - Mild irritant	xylene
-	24 hours 5 mg	-	Rabbit	Eyes - Severe irritant	
-	8 hours 60 UI	-	Rat	Skin - Mild irritant	xylene
-	24 hours 500 mg	-	Rabbit	Skin - Moderate irritant	
-	100 %	-	Rabbit	Skin - Moderate irritant	

Section 11. Toxicological information

-	24 hours 100 U	-	Rabbit	Eyes - Moderate irritant	4-methylpentan-2-one
-	40 mg	-	Rabbit	Eyes - Severe irritant	
-	24 hours 500 mg	-	Rabbit	Skin - Mild irritant	
-	500 mg	-	Rabbit	Eyes - Severe irritant	ethylbenzene
-	24 hours 15 mg	-	Rabbit	Skin - Mild irritant	
-	0.5 minutes 100 mg	-	Rabbit	Eyes - Mild irritant	toluene
-	870 ug	-	Rabbit	Eyes - Mild irritant	
-	24 hours 2 mg	-	Rabbit	Eyes - Severe irritant	
-	435 mg	-	Rabbit	Skin - Mild irritant	
-	24 hours 20 mg	-	Rabbit	Skin - Moderate irritant	
-	500 mg	-	Rabbit	Skin - Moderate irritant	

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Target organs	Route of exposure	Category	Name
Respiratory tract irritation	-	Category 3	Hexamethylene diisocyanate, oligomers
Narcotic effects	-	Category 3	2-methoxy-1-methylethyl acetate
Respiratory tract irritation	-	Category 3	xylene
Narcotic effects	-	Category 3	4-methylpentan-2-one
Narcotic effects	-	Category 3	toluene

Specific target organ toxicity (repeated exposure)

Target organs	Route of exposure	Category	Name
hearing organs	-	Category 2	ethylbenzene
-	-	Category 2	toluene

Aspiration hazard

Result	Name
ASPIRATION HAZARD - Category 1	xylene
ASPIRATION HAZARD - Category 1	ethylbenzene
ASPIRATION HAZARD - Category 1	toluene

Not available.

: Information on the likely routes of exposure

Potential acute health effects

Date of issue/Date of revision : 21-10-2022 Version : 1.01
Date of previous issue : 1-10-2022 9/15

Section 11. Toxicological information

Causes serious eye irritation.

: **Eye contact**

Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

: **Inhalation**

May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

: **Skin contact**

Can cause central nervous system (CNS) depression.

: **Ingestion**

Symptoms related to the physical, chemical and toxicological characteristics

Adverse symptoms may include the following:

: **Eye contact**

pain or irritation

watering

redness

Adverse symptoms may include the following:

: **Inhalation**

respiratory tract irritation

coughing

nausea or vomiting

headache

drowsiness/fatigue

dizziness/vertigo

unconsciousness

Adverse symptoms may include the following:

: **Skin contact**

irritation

redness

No specific data.

: **Ingestion**

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Not available.

: **Potential immediate effects**

Not available.

: **Potential delayed effects**

Long term exposure

Not available.

: **Potential immediate effects**

Not available.

: **Potential delayed effects**

Potential chronic health effects

Not available.

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

: **General**

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

: **Carcinogenicity**

No known significant effects or critical hazards.

: **Mutagenicity**

No known significant effects or critical hazards.

: **Reproductive toxicity**

Section 12. Ecological information

Toxicity

Exposure	Species	Result	Product/ingredient name
48 hours	Crustaceans - Cypris subglobosa	Acute EC50 90 mg/l Fresh water	xylene
48 hours	Crustaceans - Palaemonetes pugio - Adult	Acute LC50 8.5 ppm Marine water	
48 hours	Crustaceans - Palaemonetes pugio	Acute LC50 8500 µg/l Marine water	
96 hours	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	Acute LC50 15700 µg/l Fresh water	
96 hours	Fish - Lepomis macrochirus	Acute LC50 20870 µg/l Fresh water	
96 hours	Fish - Lepomis macrochirus	Acute LC50 19000 µg/l Fresh water	
96 hours	Fish - Pimephales promelas	Acute LC50 13400 µg/l Fresh water	
96 hours	Fish - Carassius auratus	Acute LC50 16940 µg/l Fresh water	
96 hours	Fish - Pimephales promelas	Acute LC50 505000 µg/l Fresh water	4-methylpentan-2-one
96 hours	Fish - Pimephales promelas	Acute LC50 540000 µg/l Fresh water	
96 hours	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	Acute LC50 537000 µg/l Fresh water	
21 days	Daphnia - Daphnia magna	Chronic NOEC 78 mg/l Fresh water	
33 days	Fish - Pimephales promelas - Embryo	Chronic NOEC 168 mg/l Fresh water	
72 hours	Algae - Skeletonema costatum	Acute EC50 4900 µg/l Marine water	ethylbenzene
96 hours	Algae - Skeletonema costatum	Acute EC50 7700 µg/l Marine water	
72 hours	Algae - Pseudokirchneriella subcapitata	Acute EC50 4600 µg/l Fresh water	
72 hours	Algae - Pseudokirchneriella subcapitata	Acute EC50 5400 µg/l Fresh water	
96 hours	Algae - Pseudokirchneriella subcapitata	Acute EC50 3600 µg/l Fresh water	
48 hours	Crustaceans - Artemia sp. - Nauplii	Acute EC50 6.53 mg/l Marine water	
48 hours	Crustaceans - Artemia sp. - Nauplii	Acute EC50 13.3 mg/l Marine water	
48 hours	Daphnia - Daphnia magna - Neonate	Acute EC50 2.97 mg/l Fresh water	
48 hours	Daphnia - Daphnia magna - Neonate	Acute EC50 2.93 mg/l Fresh water	
48 hours	Crustaceans - Artemia sp. - Nauplii	Acute LC50 8.78 mg/l Marine water	
48 hours	Crustaceans - Artemia sp. - Nauplii	Acute LC50 13.3 mg/l Marine water	
48 hours	Crustaceans - Cancer magister - Zoea	Acute LC50 40000 µg/l Marine water	
48 hours	Daphnia - Daphnia magna - Neonate	Acute LC50 18.4 mg/l Fresh water	
48 hours	Daphnia - Daphnia magna - Neonate	Acute LC50 13.9 mg/l Fresh water	
48 hours	Daphnia - Daphnia magna	Acute LC50 75000 µg/l Fresh water	
96 hours	Fish - Menidia menidia	Acute LC50 5100 µg/l Marine water	
96 hours	Fish - Pimephales promelas	Acute LC50 9090 µg/l Fresh water	
96 hours	Fish - Pimephales promelas	Acute LC50 9100 µg/l Fresh water	
96 hours	Fish - Oncorhynchus mykiss	Acute LC50 4200 µg/l Fresh water	
96 hours	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	Acute LC50 4.3 ul/L Marine water	
72 hours	Algae - Pseudokirchneriella subcapitata	Acute EC50 12500 µg/l Fresh water	toluene
48 hours	Crustaceans - Gammarus	Acute EC50 16500 µg/l Fresh water	

Section 12. Ecological information

48 hours	pseudolimnaeus - Adult Crustaceans - Gammarus pseudolimnaeus - Adult	Acute EC50 11600 µg/l Fresh water	
48 hours	Daphnia - Daphnia magna - Neonate	Acute EC50 6.88 mg/l Fresh water	
48 hours	Daphnia - Daphnia magna - Neonate	Acute EC50 6.56 mg/l Fresh water	
48 hours	Daphnia - Daphnia magna - Larvae	Acute EC50 19600 µg/l Fresh water	
48 hours	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	Acute EC50 6000 µg/l Fresh water	
96 hours	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	Acute EC50 6780 µg/l Fresh water	
48 hours	Crustaceans - Palaemonetes pugio - Adult	Acute LC50 15.5 ppm Marine water	
48 hours	Crustaceans - Palaemonetes pugio	Acute LC50 15500 µg/l Marine water	
48 hours	Crustaceans - Americamysis bahia	Acute LC50 56.3 ppm Marine water	
48 hours	Daphnia - Daphnia magna - Neonate	Acute LC50 86.3 mg/l Fresh water	
96 hours	Fish - Oncorhynchus kisutch - Fry	Acute LC50 5500 µg/l Fresh water	
96 hours	Fish - Oncorhynchus gorbusha - Fry	Acute LC50 6410 µg/l Marine water	
96 hours	Fish - Oncorhynchus mykiss	Acute LC50 5800 µg/l Fresh water	
96 hours	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	Acute LC50 6780 µg/l Fresh water	
21 days	Daphnia - Daphnia magna	Chronic NOEC 2 mg/l Fresh water	
21 days	Daphnia - Daphnia magna	Chronic NOEC 1000 µg/l Fresh water	

Persistence and degradability

Not available.

Bioaccumulative potential

Potential	BCF	LogP _{ow}	Product/ingredient name
low	367.7	5.54	Hexamethylene diisocyanate, oligomers
low	-	1.2	2-methoxy-1-methylethyl acetate
low	8.1 to 25.9	3.12	xylene
low	-	1.9	4-methylpentan-2-one
low	-	3.6	ethylbenzene
low	90	2.73	toluene

Mobility in soil

Not available.

: **Soil/water partition coefficient (K_{oc})**

No known significant effects or critical hazards.




: **Other adverse effects**

Section 13. Disposal considerations

The generation of waste should be avoided or minimized 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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

: **Disposal methods**

Section 14. Transport information

IATA	IMDG	UN	
UN1263	UN1263	UN1263	UN number
PAINT	PAINT	PAINT	UN proper shipping name
3 	3 	3 	Transport hazard class(es)
II	II	II	Packing group
No.	No.	No.	Environmental hazards

Additional information

Viscous liquid exception This class 3 material can be shipped as Packing Group III in packagings up to 450 L.

: **UN**

Emergency schedules F-E, _S-E_

: **IMDG**

Viscous liquid exception This class 3 material can be shipped as Packing Group III in packagings up to 450 L.

Viscous liquid exception This class 3 material can be shipped as Packing Group III in packagings up to 30 L (100 L for cargo aircraft). Transport in accordance with this provision must be noted on the Shipper's Declaration.

: **IATA**

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.

: **Special precautions for user**

Not available.

: **Transport in bulk according to IMO instruments**

Section 15. Regulatory information

Inventory list

All components are listed or exempted.	: Australia
All components are listed or exempted.	: Canada
All components are listed or exempted.	: China
All components are listed or exempted.	: Europe
Japan inventory (ENCS): Not determined.	: Japan
Japan inventory (ISHL): Not determined.	
All components are listed or exempted.	: 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
Not determined.	: Thailand
Not determined.	: Turkey
Not determined.	: United States
All components are listed or exempted.	: Viet Nam

Section 16. Other information

History

21 October 2022	: Date of printing
21 October 2022	: Date of issue/Date of revision
1 October 2022	: Date of previous issue
1.01	: Version
	: Unique ID
	: Key to abbreviations

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)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

Procedure used to derive the classification

Justification	Classification
On basis of test data	FLAMMABLE LIQUIDS - Category 2
Calculation method	ACUTE TOXICITY (dermal) - Category 5
Calculation method	SKIN CORROSION/IRRITATION - Category 2
Calculation method	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
Calculation method	SKIN SENSITIZATION - Category 1
Calculation method	CARCINOGENICITY - Category 2
Calculation method	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Calculation method	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Indicates information that has changed from previously issued version. 

Notice to reader

Section 16. Other information

FOR PROFESSIONAL USE ONLY

IMPORTANT NOTE The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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