

SAFETY DATA SHEET

FRS HARDENER

Section 1. Identification

GHS product identifier : FRS HARDENER SDS code : 21040000D

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

Identified uses

Paint. Professional use Industrial use

Uses advised against

All other uses

Product use : Filler for interior use

Supplier's details

MAPAERO SAS

10, Avenue de la Rijole CS30098

09103 PAMIERS Cedex

France

e-mail address of person responsible for this SDS

: PSRA PAMIERS@akzonobel.com

Emergency telephone number (with hours of

operation)

: +33 (0)5 34 01 34 01 +33 (0)5 61 60 23 30

2. Hazards identification

GHS Classification : FLAMMABLE LIQUIDS - Category 3

ACUTE TOXICITY (inhalation) - Category 4

SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

GHS label elements

Hazard pictograms





Signal word : Warning

Hazard statements : Flammable liquid and vapor.

Causes skin irritation.

May cause an allergic skin reaction. Causes serious eye irritation.

Harmful if inhaled.

May cause respiratory irritation.

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2. Hazards identification

Precautionary statements

General : Not applicable.

Prevention: Wear protective gloves. Wear 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.

Response : IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Take off

contaminated clothing and wash it before reuse. 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 in a well-ventilated place. Keep container tightly closed. Keep cool.

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

and international regulations.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number	Official Gazette notice reference number	
			CSCL	ISHL
₩examethylene diisocyanate, oligomers	≥50 - ≤75	28182-81-2	7-873	Not available.
xylene	10	1330-20-7	3-3; 3-60	(3)-3; (3)-60
ethylbenzene	2.4	100-41-4	3-28; 3-60	(3)-28; (3)-60
hexamethylene-di-isocyanate	0.29	822-06-0	2-2863	Not available.

4. 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.

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.

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 adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get

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4. First aid measures

medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation: Harmful if inhaled. May cause respiratory irritation.

Skin contact: 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:

respiratory tract irritation

coughing

Skin contact: Adverse symptoms may include the following:

irritation redness

Eye contact: Adverse symptoms may include the following:

pain or irritation

watering redness

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.

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.

5. Fire-fighting measures

Suitable extinguishing media

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

Unsuitable extinguishing media

: Do not use water jet.

Specific hazards arising from the chemical

: 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.

Special protective actions 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.

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 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.

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6. Accidental release measures

For emergency responders: 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".

Environmental precautions

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).

Methods and materials 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 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 noncombustible, 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.

7. Handling and storage

Handling

Protective measures

: 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. 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.

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.

Conditions for safe storage

: 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 wellventilated 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.

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8. Exposure controls/personal protection

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

Occupational exposure limits

Ingredient name	Exposure limits
xylene	ISHL (Japan, 6/2020). [xylene]
	TWA: 50 ppm 8 hours.
	Japan Society for Occupational Health
	(Japan, 9/2021).
	OEL-M: 50 ppm 8 hours.
	OEL-M: 217 mg/m ³ 8 hours.
ethylbenzene	Japan Society for Occupational Health
,	(Japan, 9/2021). Absorbed through skin.
	OEL-M: 87 mg/m ³ 8 hours.
	OEL-M: 20 ppm 8 hours.
	ISHL (Japan, 6/2020).
	TWA: 20 ppm 8 hours.
hexamethylene-di-isocyanate	Japan Society for Occupational Health
,	(Japan, 9/2021). Inhalation sensitizer.
	OEL-M: 0.034 mg/m ³ 8 hours.
	OEL-M: 0.005 ppm 8 hours.

Individual protection measures

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.

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.

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.

Skin 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.

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.

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9. Physical and chemical properties

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

Appearance

Physical state : Liquid.
Color : Colorless.
Odor : Characteristic.

pH : Not available. [DIN EN 1262]

Melting point/freezing point Boiling point, initial boiling point, and boiling range : Not available.: Not available.

Flash point : Closed cup: 37°C (98.6°F) [Pensky-Martens] Flammability : Not available.

Flammability
Lower and upper explosion
limit/flammability limit

: Not available.

Vapor pressure

:

	\	Vapor Pressure at 20°C		'	Vapor pressure at 50°C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method	
duene	23.17	3.1					
ethylbenzene	9.3	1.2					
xylene	6.7	0.89					
2-methoxy-1-methylethyl acetate	2.7	0.36					
hexamethylene-di-isocyanate	0.01	0.0013					
2,6-di-tert-butyl-p-cresol	0.01	0.0013					
Hexamethylene diisocyanate, oligomers	0.000018	0.0000024	EU A.4				

Relative vapor density: Not available.

Density : **1**.07 g/cm³ [DIN EN ISO 2811-1]

Solubility(ies) :

Media	Result
<mark>c</mark> old water	Not soluble [OESO (TG 105)]

Partition coefficient: n-

octanol/water

: Not applicable.

Auto-ignition temperature

Ingredient name	°C	°F	Method
methoxy-1-methylethyl acetate	333	631.4	
xylene	432	809.6	
ethylbenzene	432.22	810	
hexamethylene-di-isocyanate	454	849.2	
toluene	480	896	

Decomposition temperature: Not available.

Viscosity : Kinematic (room temperature): 290 mm²/s (290 cSt) [DIN EN ISO 3219]

Kinematic (40°C (104°F)): 101 mm²/s (101 cSt) [DIN EN ISO 3219]

Particle characteristics

Median particle size : Not applicable.

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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 pressurize, cut, weld,

braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials

: Reactive or incompatible with the following materials:

oxidizing materials

Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products

should not be produced.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
⊮examethylene	LC50 Inhalation Dusts and mists	Rat	18500 mg/m ³	1 hours
diisocyanate, oligomers				
xylene	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LD50 Intraperitoneal	Mouse	1548 mg/kg	-
	LD50 Intraperitoneal	Mouse	1548 mg/kg	-
	LD50 Intraperitoneal	Rat	2459 mg/kg	-
	LD50 Oral	Mouse	2119 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Subcutaneous	Rat	1700 mg/kg	-
ethylbenzene	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours
	LC50 Inhalation Vapor	Mouse	35500 mg/m ³	2 hours
	LC50 Inhalation Vapor	Rat	55000 mg/m ³	2 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Dermal	Rabbit	17800 uL/kg	-
	LD50 Intraperitoneal	Mouse	2624 uL/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
hexamethylene-di- isocyanate	LC50 Inhalation Dusts and mists	Rat	124 mg/m³	4 hours
	LC50 Inhalation Dusts and mists	Rat	462 mg/m ³	4 hours
	LD50 Dermal	Rabbit	570 uL/kg	-
	LD50 Intravenous	Mouse	5600 µg/kg	-
	LD50 Oral	Mouse	350 mg/kg	-
	LD50 Oral	Rat	710 uL/kg	

Acute toxicity estimates

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11. Toxicological information

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
 \$\infty{2}/21040000D-TRA_HARD_FRS	N/A	10918.1	N/A	88.4	2
Hexamethylene diisocyanate, oligomers	N/A	N/A	N/A	N/A	1.5
xylene	N/A	1100	N/A	11	N/A
ethylbenzene	N/A	N/A	N/A	11	N/A
hexamethylene-di-isocyanate	N/A	N/A	N/A	N/A	0.5

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Fexamethylene diisocyanate, oligomers	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5	-
				mg	
	Skin - Mild irritant	Rat	-	8 hours 60 UI	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	
ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15	-
				mg	

Respiratory sensitization/Skin sensitization

Not available.

Germ Cell Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Fexamethylene diisocyanate, oligomers	Category 3	-	Respiratory tract irritation
xylene	Category 3	-	Respiratory tract irritation
hexamethylene-di-isocyanate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
e thylbenzene	Category 2	-	hearing organs

Aspiration hazard

Name	Result
	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

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12. Ecological information

Ecotoxicity

Product/ingredient name	Result	Species	Exposure
x ylene	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris	48 hours
		subglobosa	
	Acute LC50 8.5 ppm Marine water	Crustaceans - Palaemonetes	48 hours
		pugio - Adult	
	Acute LC50 8500 μg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 16940 μg/l Fresh water	Fish - Carassius auratus	96 hours
	Acute LC50 15700 μg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 20870 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 19000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 5400 μg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 μg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	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 13.3 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute EC50 2.97 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 2.93 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 8.78 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute LC50 13.3 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute LC50 40000 μg/l Marine water	Crustaceans - Cancer magister - Zoea	48 hours
	Acute LC50 18.4 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 13.9 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 75000 μg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5100 µg/l Marine water	Fish - Menidia menidia	96 hours
	Acute LC50 4.3 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 9090 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 9100 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence/degradability

Not available.

Bioaccumulative potential

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12. Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
⊮ examethylene diisocyanate,	5.54	367.7	low
oligomers			
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	-	low
hexamethylene-di-isocyanate	0.02	57.63	low

Mobility in soil : Not available.

Hazardous to the ozone

<u>layer</u>

: Not applicable.

Other adverse effects

: No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods

: 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

14. Transport information

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

Additional information

UN

: <u>Viscous liquid exception</u> This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.1.

IMDG

: Emergency schedules F-E, S-E

<u>Viscous liquid exception</u> This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.

IMDG Code Segregation group Not applicable

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14. Transport information

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 : Not available.

to IMO instruments

15. Regulatory information

Fire Service Law

Category	j.	Danger category	•	Designated quantity
Category IV	Class II petroleums	III	Flammable - Keep Fire Away	1000 L

<u>ISHL</u>

Ordinance on the Prevention of the Hazard due to Specified Chemical Substances

Ingredient name	%	Status	Reference number
Ethyl benzene	≤3.0	Group-2 Substances under Supervision	3-3

Substance(s) requiring labelling

Ingredient name	%	Status	Reference number
ethylbenzene	≥10 - ≤25	Listed	136
	≤3.0	Listed	70

Chemicals requiring notification

Ingredient name	%	Status	Reference number
ethylbenzene	≥10 - ≤25 ≤3.0	Listed Listed	136 70
hexamethylene-di-isocyanate	≤0.30	Listed	519

Guideline for Preventing Health Hazard by chemical substances (Carcinogenicity)

Ingredient name	%		Reference number
ethylbenzene ethylbenzene	≤3.0	Listed	-

ISHL Enforcement Order Appendix 1 - Dangerous

: Inflammable

Substances

Organic solvents : Class 2

poisoning prevention

Chemical Substances Control Law (CSCL)

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15. Regulatory information

Ingredient name	%	Status	Reference number
x ylene	≥10 - ≤25	Priority assessment	125
ethylbenzene	≤3.0	Priority assessment	50
hexamethylene-di-isocyanate	≤0.30	Priority assessment	43
toluene	≤0.10	Priority assessment	46
2,6-di-tert-butyl-p-cresol	≤0.10	Priority assessment	64

Poisonous and Deleterious Substances

Ingredient name	%	Status	Reference number
xamethylene-di-isocyanate	≤0.30	Deleterious	2-1-91-2

Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Status	Reference number
	10	Class 1	80
ethylbenzene	2.4	Class 1	53

JSOH Carcinogen : Group 2B

16. Other information

History

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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,

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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

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16. Other information

Classification	Justification
AMMABLE LIQUIDS - Category 3	On basis of test data
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method

[▼] Indicates information that has changed from previously issued version.

Notice to reader

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