

SAFETY DATA SHEET

FRS-40 SEMI-GLOSS BASE NICKEL MATT 9311

Section 1. Identification

GHS product identifier : FRS-40 SEMI-GLOSS BASE NICKEL MATT 9311
SDS code : 40929311B

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 : Solvent borne coating 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
 EYE IRRITATION - Category 2A
 CARCINOGENICITY - Category 2
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Flammable liquid and vapor.
 Causes serious eye irritation.
 May cause drowsiness or dizziness.
 Suspected of causing cancer.
 Harmful to aquatic life with long lasting effects.

Precautionary statements

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2. Hazards identification

General	: Not applicable.
Prevention	: Obtain special instructions before use. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, sparks and hot surfaces. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid release to the environment. Avoid breathing vapor.
Response	: IF exposed or concerned: Get medical advice or attention. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. 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
n-butyl acetate	≥50 - ≤75	123-86-4	2-731	2-(6)-226
n-butyl acetate (grade urethane)	≥50 - ≤75	-	2-731	(2)-731
ethyl acetate	≤10	141-78-6	2-726	(2)-726
Reaction mass of ethylbenzene and xylene	6.7	-	3-3; 3-60	(3)-3; (3)-60
xylene	5.5	1330-20-7	3-3; 3-60	(3)-3; (3)-60
4-methylpentan-2-one	≤3.0	108-10-1	2-542	2-542
isopropyl acetate	≤3.0	108-21-4	2-727	Not available.
ethylbenzene	1.3	100-41-4	3-28; 3-60	(3)-28; (3)-60
Solvent naphtha (petroleum), light arom.	≤3.0	64742-95-6	Not available.	Not available.
Aluminium powder (stabilized)	≤1.0	7429-90-5	Not available.	Not available.
4-morpholinecarbaldehyde	≤0.30	4394-85-8	5-6646	Not available.
silicon dioxide	≤0.30	7631-86-9	1-548	(1)-548
dibutyltin dilaurate	0.18	77-58-7	2-2330	(2)-2330
methyl methacrylate	0.16	80-62-6	2-1036	(2)-1036

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.
Skin contact	: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. 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.

4. First aid measures

Ingestion : 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Eye contact : Causes serious eye irritation.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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.

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

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.
- 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). Water polluting material. May be harmful to the environment if released in large quantities.

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 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.

7. Handling and storage

Handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). 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. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7. Handling and storage

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 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.

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
n-butyl acetate	Japan Society for Occupational Health (Japan, 5/2019). OEL-M: 475 mg/m ³ 8 hours. OEL-M: 100 ppm 8 hours. ISHL (Japan, 10/2019). TWA: 150 ppm 8 hours.
ethyl acetate	Japan Society for Occupational Health (Japan, 5/2019). OEL-M: 720 mg/m ³ 8 hours. OEL-M: 200 ppm 8 hours. ISHL (Japan, 10/2019). TWA: 200 ppm 8 hours.
Reaction mass of ethylbenzene and xylene	ISHL (Japan, 10/2019). TWA: 50 ppm 8 hours. Japan Society for Occupational Health (Japan, 5/2019). OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m ³ 8 hours.
xylene	ISHL (Japan, 10/2019). TWA: 50 ppm 8 hours. Japan Society for Occupational Health (Japan, 5/2019). OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m ³ 8 hours.
4-methylpentan-2-one	Japan Society for Occupational Health (Japan, 5/2019). OEL-M: 200 mg/m ³ 8 hours. OEL-M: 50 ppm 8 hours. ISHL (Japan, 10/2019). TWA: 20 ppm 8 hours.
isopropyl acetate	ISHL (Japan, 10/2019). TWA: 100 ppm 8 hours. Japan Society for Occupational Health (Japan, 5/2019). OEL-M: 100 ppm 8 hours.
ethylbenzene	Japan Society for Occupational Health (Japan, 5/2019). OEL-M: 217 mg/m ³ 8 hours. OEL-M: 50 ppm 8 hours. ISHL (Japan, 10/2019). TWA: 20 ppm 8 hours.

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8. Exposure controls/personal protection

methyl methacrylate

Japan Society for Occupational Health (Japan, 5/2019). Skin sensitizer. Inhalation sensitizer.

OEL-M: 8.3 mg/m³ 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.

9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Gray.
- Odor** : Characteristic.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Closed cup: 28°C
- Upper/lower flammability or explosive limits** : Greatest known range: Lower: 2.2% Upper: 11.5% (ethyl acetate)
- Vapor pressure** : Not available.
- Vapor density** : Highest known value: 3.7 (Air = 1) (ethylbenzene). Weighted average: 3.78 (Air = 1)
- Specific gravity (Relative density)** : Not available.
- Solubility(ies)** : Insoluble in the following materials: cold water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not available.

9. Physical and chemical properties

Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): 11.9 cm ² /s Kinematic (40°C): 1.01 cm ² /s

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
n-butyl acetate	LC50 Inhalation Gas.	Rat	390 ppm	4 hours
	LC50 Inhalation Vapor	Mouse	6 g/m ³	2 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Intraperitoneal	Mouse	1230 mg/kg	-
	LD50 Oral	Guinea pig	4700 mg/kg	-
	LD50 Oral	Mouse	6 g/kg	-
	LD50 Oral	Rabbit	3200 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
ethyl acetate	LC50 Inhalation Gas.	Rat	1600 ppm	8 hours
	LC50 Inhalation Vapor	Mouse	45 g/m ³	2 hours
	LD50 Intraperitoneal	Mouse	709 mg/kg	-
	LD50 Oral	Guinea pig	5.5 g/kg	-
	LD50 Oral	Guinea pig	5500 mg/kg	-
	LD50 Oral	Mouse	4.1 g/kg	-
	LD50 Oral	Mouse	4100 mg/kg	-
	LD50 Oral	Rabbit	4935 mg/kg	-
	LD50 Oral	Rat	5620 mg/kg	-
	LD50 Subcutaneous	Guinea pig	3 g/kg	-
Reaction mass of ethylbenzene and xylene xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	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	-
	LD50 Intraperitoneal	Guinea pig	800 mg/kg	-
4-methylpentan-2-one	LD50 Intraperitoneal	Mouse	268 mg/kg	-
	LD50 Intraperitoneal	Mouse	268 mg/kg	-

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isopropyl acetate	LD50 Intraperitoneal	Rat	400 mg/kg	-	
	LD50 Oral	Guinea pig	1600 mg/kg	-	
	LD50 Oral	Mouse	1900 mg/kg	-	
	LD50 Oral	Mouse	2850 mg/kg	-	
	LD50 Oral	Rat	2080 mg/kg	-	
ethylbenzene	LD50 Oral	Rat	4600 mg/kg	-	
	LC50 Inhalation Vapor	Rat	50600 mg/m ³	8 hours	
	LD50 Oral	Rabbit	6946 mg/kg	-	
	LD50 Oral	Rat	6750 mg/kg	-	
	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours	
Solvent naphtha (petroleum), light arom.	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	-	
	LD50 Oral	Rat	8400 mg/kg	-	
	4-morpholinecarbaldehyde dibutyltin dilaurate	LD50 Oral	Rat	6500 uL/kg	-
		LC50 Inhalation Dusts and mists	Mouse	150 mg/m ³	2 hours
LD50 Intraperitoneal		Mouse	180 mg/kg	-	
LD50 Intravenous		Rat	33 mg/kg	-	
LD50 Oral		Mouse	210 mg/kg	-	
methyl methacrylate	LD50 Oral	Rabbit	100 mg/kg	-	
	LD50 Oral	Rat	175 mg/kg	-	
	LC50 Inhalation Vapor	Mouse	18500 mg/m ³	2 hours	
	LC50 Inhalation Vapor	Rat	78000 mg/m ³	4 hours	
	LD50 Dermal	Rabbit	>5 g/kg	-	
	LD50 Intraperitoneal	Guinea pig	1890 mg/kg	-	
	LD50 Intraperitoneal	Mouse	945 mg/kg	-	
	LD50 Intraperitoneal	Rat	1328 mg/kg	-	
	LD50 Oral	Guinea pig	5954 mg/kg	-	
	LD50 Oral	Mouse	3625 mg/kg	-	
	LD50 Oral	Rabbit	8700 mg/kg	-	
	LD50 Oral	Rat	7872 mg/kg	-	
	LD50 Subcutaneous	Guinea pig	5954 mg/kg	-	
	LD50 Subcutaneous	Mouse	5954 mg/kg	-	
	LD50 Subcutaneous	Rat	7088 mg/kg	-	

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
S2/40929311B-GRY_SBTC_FRS40S-AN9311	N/A	17810.7	N/A	102.3	N/A
Reaction mass of ethylbenzene and xylene	N/A	1100	5000	N/A	N/A
xylene	N/A	1100	N/A	11	N/A
4-methylpentan-2-one	N/A	N/A	N/A	11	N/A
ethylbenzene	N/A	N/A	N/A	11	N/A

Irritation/Corrosion

11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-butyl acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Reaction mass of ethylbenzene and xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant Skin - Moderate irritant	Rat Rabbit	- -	8 hours 60 UI 24 hours 500 mg	- -
xylene	Skin - Moderate irritant	Rabbit	-	100 %	-
	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant Skin - Moderate irritant	Rat Rabbit	- -	8 hours 60 UI 24 hours 500 mg	- -
4-methylpentan-2-one	Skin - Moderate irritant	Rabbit	-	100 %	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 UI	-
	Eyes - Severe irritant Skin - Mild irritant	Rabbit Rabbit	- -	40 mg 24 hours 500 mg	- -
isopropyl acetate	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
Solvent naphtha (petroleum), light arom.	Eyes - Mild irritant	Rabbit	-	24 hours 100 UI	-
4-morpholinecarbaldehyde	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
silicon dioxide	Eyes - Mild irritant	Rabbit	-	24 hours 25 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
n-butyl acetate	Category 3	-	Narcotic effects
ethyl acetate	Category 3	-	Narcotic effects
Reaction mass of ethylbenzene and xylene	Category 3	-	Respiratory tract irritation
xylene	Category 3	-	Respiratory tract irritation
4-methylpentan-2-one	Category 3	-	Narcotic effects
isopropyl acetate	Category 3	-	Narcotic effects

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Solvent naphtha (petroleum), light arom.	Category 3	-	Respiratory tract irritation
dibutyltin dilaurate	Category 3	-	Narcotic effects thymus
methyl methacrylate	Category 1 Category 3	- -	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Reaction mass of ethylbenzene and xylene	Category 2	-	-
ethylbenzene	Category 2	-	hearing organs
dibutyltin dilaurate	Category 1	-	immune system

Aspiration hazard

Name	Result
Reaction mass of ethylbenzene and xylene	ASPIRATION HAZARD - Category 1
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
Solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1

12. Ecological information

Ecotoxicity

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 100000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 185000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute LC50 62000 µg/l Fresh water	Fish - Danio rerio	96 hours
ethyl acetate	Acute EC50 2500000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 1600000 µg/l Fresh water	Crustaceans - Asellus aquaticus	48 hours
	Acute LC50 750000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 175000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 154000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 560000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 230000 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 295000 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 230000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 212500 µg/l Fresh water	Fish - Heteropneustes fossilis	96 hours
	Acute LC50 484000 µg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 425300 µg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 12 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 2400 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 75.6 mg/l Fresh water	Fish - Pimephales promelas - Embryo	32 days
Reaction mass of ethylbenzene and xylene	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
xylene	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 8.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 15700 µg/l Fresh water	Fish - Lepomis macrochirus -	96 hours

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12. Ecological information

4-methylpentan-2-one	Acute LC50 20870 µg/l Fresh water	Juvenile (Fledgling, Hatchling, Weanling)		
	Acute LC50 19000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours	
	Acute LC50 13400 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours	
	Acute LC50 16940 µg/l Fresh water	Fish - Pimephales promelas	96 hours	
	Acute LC50 505000 µg/l Fresh water	Fish - Carassius auratus	96 hours	
	Acute LC50 540000 µg/l Fresh water	Fish - Pimephales promelas	96 hours	
	Acute LC50 537000 µg/l Fresh water	Fish - Pimephales promelas	96 hours	
		Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours	
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days	
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days	
	isopropyl acetate ethylbenzene	Acute LC50 110 mg/l Marine water	Crustaceans - Artemia salina	48 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 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 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 9090 µg/l Fresh water		Fish - Pimephales promelas	96 hours	
Acute LC50 9100 µg/l Fresh water		Fish - Pimephales promelas	96 hours	
Acute LC50 4200 µg/l Fresh water		Fish - Oncorhynchus mykiss	96 hours	
Acute LC50 4.3 ul/L Marine water		Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours	
Aluminium powder (stabilized)		Acute LC50 38000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
		Acute LC50 260 µg/l Fresh water	Fish - Ctenopharyngodon idella - Fry	96 hours
		Acute LC50 1130 µg/l Fresh water	Fish - Cobitidae - Fry	96 hours
		Acute LC50 310 µg/l Fresh water	Fish - Oncorhynchus mykiss - Embryo	96 hours
		Acute LC50 160 µg/l Fresh water	Fish - Oncorhynchus mykiss - Embryo	96 hours
	Acute LC50 120 µg/l Fresh water	Fish - Oncorhynchus mykiss - Embryo	96 hours	
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days	

12. Ecological information

methyl methacrylate	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Acute LC50 191000 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 159100 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 160200 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 150000 µg/l Fresh water	Fish - Pimephales promelas - Adult	96 hours
	Acute LC50 130000 µg/l Fresh water	Fish - Pimephales promelas - Adult	96 hours

Persistence/degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
n-butyl acetate	2.3	-	low
n-butyl acetate (grade urethane)	2.3	-	low
ethyl acetate	0.68	30	low
Reaction mass of ethylbenzene and xylene	3.12	8.1 to 25.9	low
xylene	3.12	8.1 to 25.9	low
4-methylpentan-2-one	1.9	-	low
isopropyl acetate	1.3	-	low
ethylbenzene	3.6	-	low
Solvent naphtha (petroleum), light arom.	-	10 to 2500	high
4-morpholinecarbaldehyde	-	<1.9	low
dibutyltin dilaurate	4.44	2.91	low
methyl methacrylate	1.38	-	low

Mobility in soil : Not available.




Hazardous to the ozone layer : 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 sewers.

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 : **Viscous liquid exception** 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_
Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.

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

Transport in bulk according to IMO instruments : Not available.

15. Regulatory information

Fire Service Law

Category	Substance name/Type	Danger category	Signal word	Designated quantity
Category IV	Class II petroleums	III	Flammable - Keep Fire Away	1000 L

ISHL

Use of specified chemical substances

Ingredient name	%	Status	Reference number
Ethyl benzene	≤3.0	Group-2 Substances under Supervision	3-3
Methyl isobutyl ketone	≤3.0	Special Organic Solvents	33-2

Substances requiring labelling

15. Regulatory information

Ingredient name	%	Status	Reference number
n-butyl acetate (grade urethane)	≥50 - ≤75	Listed	181
n-butyl acetate	≥50 - ≤75	Listed	181
ethyl acetate	≤10	Listed	177
isopropyl acetate	≤3.0	Listed	182
Reaction mass of ethylbenzene and xylene	≤10	Listed	136
4-methylpentan-2-one	≤3.0	Listed	569
Solvent naphtha (petroleum), light arom.	≤3.0	Listed	330
xylene	<10	Listed	136
silicon dioxide	≤0.30	Listed	165-2

Chemicals requiring notification

Ingredient name	%	Status	Reference number
n-butyl acetate (grade urethane)	≥50 - ≤75	Listed	181
n-butyl acetate	≥50 - ≤75	Listed	181
methyl methacrylate	≤0.30	Listed	557
ethyl acetate	≤10	Listed	177
isopropyl acetate	≤3.0	Listed	182
Aluminium powder (stabilized)	≤1.0	Listed	37
Reaction mass of ethylbenzene and xylene	≤10	Listed	136
4-methylpentan-2-one	≤3.0	Listed	569
Solvent naphtha (petroleum), light arom.	≤3.0	Listed	330
xylene	<10	Listed	136
silicon dioxide	≤0.30	Listed	165-2
dibutyltin dilaurate	<0.25	Listed	322

Guideline for Preventing Health Hazard by chemical substances (Carcinogenicity)

Ingredient name	%	Status	Reference number
ethylbenzene	≤3.0	Listed	-
4-methylpentan-2-one	≤3.0	Listed	-

ISHL Appendix 1 : Flammable liquid Class 3

Organic solvents poisoning prevention : Class 2

Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
Reaction mass of ethylbenzene and xylene	≤10	Priority assessment	125
4-methylpentan-2-one	≤3.0	Priority assessment	116
butan-1-ol	≤0.10	Priority assessment	124
1,2,4-trimethylbenzene	<1.0	Priority assessment	49
xylene	<10	Priority assessment	125
cumene	≤0.10	Priority assessment	126
2,6-di-tert-butyl-p-cresol	<0.10	Priority assessment	64

Poisonous and Deleterious Substances

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Version : 1

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15. Regulatory information

None of the components are listed.

Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Status	Reference number
Reaction mass of ethylbenzene and xylene	6.7	Class 1	80
xylene	5.5	Class 1	80

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, 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

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method

📌 Indicates information that has changed from previously issued version.

Notice to reader

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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16. Other information

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