AkzoNobel

SAFETY DATA SHEET

FRS-40 SEMI-GLOSS 23(+ -3) GU BASE GOLD 9387

In accordance with the Standard for Classification and Labeling of Chemical Substance and Safety Data Sheet, Article 10 Paragraph 1

Section 1. Chemical product and company identification

A. Product name : FRS-40 SEMI-GLOSS 23(+ -3) GU BASE GOLD 9387

SDS code : 40929387B

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

Identified uses
Professional use Industrial use

Uses advised against
All other uses

Product use : Solvent borne coating for interior use.

C. 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

Section 2. Hazards identification

A. Hazard classification : FLAMMABLE LIQUIDS - Category 3
EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

This product is classified in accordance with the Industrial Safety and Health Act and the Chemical Control Act.

B. GHS label elements, including precautionary statements

Symbol :

Signal word : Warning

Section 2. Hazards identification

Hazard statements : H226 - Flammable liquid and vapor.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H351 - Suspected of causing cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe vapor.

Response : P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 - Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

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

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	Common name	Identifiers	%
n-butyl acetate	n-butyl acetate	CAS: 123-86-4	≥35 - ≤40
2-methoxy-1-methylethyl acetate	2-methoxy-1-methylethyl acetate	CAS: 108-65-6	≥10 - ≤15
xylene	xylene	CAS: 1330-20-7	≤10
Mica-group minerals	Mica-group minerals	CAS: 12001-26-2	≤10
4-methylpentan-2-one	4-methylpentan-2-one	CAS: 108-10-1	≤5
titanium dioxide	titanium dioxide	CAS: 13463-67-7	≤5
Aluminium powder (stabilized)	Aluminium powder (stabilized)	CAS: 7429-90-5	≤5
ethylbenzene	ethylbenzene	CAS: 100-41-4	≤5
toluene	toluene	CAS: 108-88-3	≤5
cyclohexanone	cyclohexanone	CAS: 108-94-1	≤5

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

A. 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.

B. 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.

C. 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.

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

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

Specific treatments : No specific treatment.

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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

A. Extinguishing media

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

Unsuitable extinguishing media : Do not use water jet.

B. 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.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Section 5. Fire-fighting measures

C. 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.

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

Section 6. Accidental release measures

A. 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.

B. 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).

C. 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.

Section 7. Handling and storage

A. Precautions for safe 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 breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

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

Section 7. Handling and storage

B. Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from 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.

Section 8. Exposure controls/personal protection

A. Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
n-butyl acetate	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours.
xylene	**Ministry of Employment and Labor (Republic of Korea, 1/2020). [Xylene]** STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.
4-methylpentan-2-one	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** STEL: 75 ppm 15 minutes. TWA: 50 ppm 8 hours.
ethylbenzene	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours.
toluene	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.
cyclohexanone	**Ministry of Employment and Labor (Republic of Korea, 1/2020). Absorbed through skin.** TWA: 25 ppm 8 hours. STEL: 50 ppm 15 minutes.

B. 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.

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

C. Personal protective equipment

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.

Section 8. Exposure controls/personal protection

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.

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.

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

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 9. Physical and chemical properties

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

A. Appearance

Physical state : Liquid.

Color : Gold.

B. Odor : Characteristic.

C. Odor threshold : Not available.

D. pH : Not available. [DIN EN 1262]

E. Melting/freezing point : Not available.

F. Boiling point, initial boiling point, and boiling range : Not available.

G. Flash point : Closed cup: 28°C (82.4°F) [Pensky-Martens]

H. Evaporation rate : Not available.

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

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

K. Vapor pressure :

	Vapor Pressure at 20˚C			Vapor pressure at 50˚C		
Ingredient name	**mm Hg**	**kPa**	**Method**	**mm Hg**	**kPa**	**Method**
methyl methacrylate	27.75	3.7				
Toluene	23.17	3.1				
4-methylpentan-2-one	15.75	2.1				
n-butyl acetate	11.25	1.5	DIN EN 13016-2			
ethylbenzene	9.3	1.2				
Xylene	6.7	0.89				

Section 9. Physical and chemical properties

cyclohexanone	3.75	0.5				
cumene	3.72	0.5				
2-methoxy-1-methylethyl acetate	2.7	0.36				
2-ethoxy-1-methylethyl acetate	1.52	0.2	EU A.4			
Naphtha (petroleum), hydrotreated heavy	0.75 to 2.25	0.1 to 0.3				
Naphtha (petroleum), hydrotreated heavy	0.75 to 2.25	0.1 to 0.3				
Distillates (petroleum), hydro-treated light	0.23 to 0.45	0.031 to 0.06				
aluminium hydroxide	<0.075	<0.01				
2-hydroxyethyl methacrylate	0.06	0.008	OECD 104			
4-morpholinecarbaldehyde	0.02	0.0027		0.29	0.039	
2,6-di-tert-butyl-p-cresol	0.01	0.0013				
1,1'-(ethane-1,2-diyl)bis [pentabromobenzene]	<0.00000075	<0.0000001	OECD 104			
Poly(oxy-1,2-ethanediyl),α-hydro-ω-hydroxy- Ethane-1,2-diol, ethoxylated	0.0000003	0.00000004				
IRGAZIN DPP ORANGE 16A	0	0	EU A.4			
propylidynetrimethanol	0	0				

L. Solubility(ies) :

Media	Result
cold water	Not soluble [OESO (TG 105)]

Solubility in water : Not available.

M. Vapor density :

N. Density : 1.037 g/cm³ [DIN EN ISO 2811-1]

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

P. Auto-ignition temperature :

Ingredient name	°C	°F	Method
4-[[4-(aminocarbonyl)phenyl]azo]-N-(2-ethoxyphenyl) -3-hydroxynaphthalene-2-carboxamide	>140	>284	
Distillates (petroleum), hydro- treated light	>220	>428	
Naphtha (petroleum), hydrotreated heavy	280 to 470	536 to 878	
Solvent naphtha (petroleum), light arom.	280 to 470	536 to 878	
Naphtha (petroleum), hydrotreated heavy	280 to 470	536 to 878	
2-ethoxy-1-methylethyl acetate	325	617	
2-methoxy-1-methylethyl acetate	333	631.4	
3,3'-Dichlorobenzidine	350	662	
methyl methacrylate	400	752	DIN 51794
n-butyl acetate	415	779	EU A.15
cyclohexanone	420	788	
cumene	424	795.2	
Xylene	432	809.6	

Section 9. Physical and chemical properties

ethylbenzene	432.22	810	
4-methylpentan-2-one	448	838.4	
Toluene	480	896	

Q. Decomposition temperature : Not available.

R. Viscosity : Kinematic (room temperature): 964 mm^2/s (964 cSt) [DIN EN ISO 3219]
Kinematic (40°C (104°F)): 101 mm^2/s (101 cSt) [DIN EN ISO 3219]

S. Molecular weight : Not applicable.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

A. Chemical stability : The product is stable.

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

B. 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.

C. Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

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

Section 11. Toxicological information

A. Information on the likely routes of exposure : Not available.

Potential acute health effects

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

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

Skin contact : No known significant effects or critical hazards.

Eye contact : Causes serious eye irritation.

Over-exposure signs/symptoms

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

Ingestion : No specific data.

Skin contact : No specific data.

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

B. Health hazards

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Gas.	Rat	390 ppm	4 hours
	LC50 Inhalation Vapor	Mouse	6 g/m³	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	-
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	-
4-methylpentan-2-one	LD50 Intraperitoneal	Guinea pig	800 mg/kg	-
	LD50 Intraperitoneal	Mouse	268 mg/kg	-
	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	-
	LD50 Oral	Rat	4600 mg/kg	-
ethylbenzene	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours
	LC50 Inhalation Vapor	Mouse	35500 mg/m³	2 hours
	LC50 Inhalation Vapor	Rat	55000 mg/m³	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	-
toluene	LC50 Inhalation Gas.	Mouse	400 ppm	24 hours
	LC50 Inhalation Vapor	Mouse	30000 mg/m³	2 hours
	LC50 Inhalation Vapor	Mouse	19900 mg/m³	7 hours
	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Dermal	Rabbit	14100 uL/kg	-
	LD50 Intraperitoneal	Guinea pig	500 mg/kg	-
	LD50 Intraperitoneal	Mouse	59 mg/kg	-
	LD50 Intraperitoneal	Rat	1332 mg/kg	-
	LD50 Intravenous	Rat	1960 mg/kg	-
	LD50 Oral	Rat	636 mg/kg	-
	LD50 Route of exposure unreported	Mouse	2 g/kg	-
	LD50 Route of exposure unreported	Rat	6900 mg/kg	-
	LD50 Subcutaneous	Mouse	2250 mg/kg	-
cyclohexanone	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	1 mL/kg	-
	LD50 Intraperitoneal	Guinea pig	930 mg/kg	-
	LD50 Intraperitoneal	Mouse	1230 mg/kg	-
	LD50 Intraperitoneal	Mouse	1230 mg/kg	-
	LD50 Intraperitoneal	Rabbit	1540 mg/kg	-
	LD50 Intraperitoneal	Rabbit	1540 mg/kg	-
	LD50 Intraperitoneal	Rat	1130 mg/kg	-
	LD50 Intraperitoneal	Rat	1130 mg/kg	-
	LD50 Oral	Mouse	1400 mg/kg	-
	LD50 Oral	Rat	1800 mg/kg	-
	LD50 Oral	Rat	1620 uL/kg	-

Section 11. Toxicological information

	LD50 Subcutaneous	Rat	2170 mg/kg	-

Irritation/Corrosion

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	-
xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 Ul	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	24 hours 100 Ul	-
	Eyes - Severe irritant	Rabbit	-	40 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Eyes - Mild irritant	Rabbit	-	870 ug	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
cyclohexanone	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 250 ug	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

Sensitization

Not available.

CMR - ISHA Article 42 Occupational Exposure Limits

Product/ingredient name	Identifiers	Classification
4-methylpentan-2-one	CAS: 108-10-1	CARCINOGENICITY - Category 2
titanium dioxide	CAS: 13463-67-7	CARCINOGENICITY - Category 2
ethylbenzene	CAS: 100-41-4	CARCINOGENICITY - Category 2
toluene	CAS: 108-88-3	TOXIC TO REPRODUCTION - Category 2
cyclohexanone	CAS: 108-94-1	CARCINOGENICITY - Category 2

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP	ACGIH
xylene	-	3	-	A4
4-methylpentan-2-one	-	2B	-	A3
titanium dioxide	-	2B	-	A4
Aluminium powder (stabilized)	-	-	-	A4
ethylbenzene	-	2B	-	A3
toluene	-	3	-	A4
cyclohexanone	-	3	-	A3

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
n-butyl acetate	Category 3	-	Narcotic effects
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
xylene	Category 3	-	Narcotic effects
4-methylpentan-2-one	Category 3	-	Narcotic effects
toluene	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
xylene	Category 1	-	-
ethylbenzene	Category 2	-	hearing organs
toluene	Category 2	-	-

Aspiration hazard

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

Potential chronic health effects

Chronic toxicity

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

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

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 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)
S2/40929387B-GOL_SBTC_FRS40S-AN9387	N/A	15481.9	N/A	85.3	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
cyclohexanone	N/A	N/A	N/A	11	N/A

Section 12. Ecological information

A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 62000 µg/l Fresh water	Fish - Danio rerio	96 hours
	Acute LC50 100000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 185000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute LC50 18000 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 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
4-methylpentan-2-one	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 540000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 537000 µg/l Fresh water	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
titanium dioxide	Acute EC50 19.3 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 27.8 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 35.306 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 13.4 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 11 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 3.6 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 15.9 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 13 mg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours

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	Acute LC50 >1000 mg/l Fresh water	Fish - Pimephales promelas	96 hours
Aluminium powder (stabilized)	Acute LC50 38000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1130 µg/l Fresh water	Fish - Cobitidae - Fry	96 hours
	Acute LC50 260 µg/l Fresh water	Fish - Ctenopharyngodon idella - 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
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
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
toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 16500 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6.88 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 6.56 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 19600 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours

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	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 6780 µg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 56.3 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 15.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 15500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 86.3 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 6410 µg/l Marine water	Fish - Oncorhynchus gorbuscha - Fry	96 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Acute LC50 5800 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 6780 µg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 2 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
cyclohexanone	Acute EC50 32.9 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 630000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 527000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 732000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

B. Persistence and degradability

Not available.

C. Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
n-butyl acetate	2.3	-	low
2-methoxy-1-methylethyl acetate	1.2	-	low
xylene	3.12	8.1 to 25.9	low
4-methylpentan-2-one	1.9	-	low
ethylbenzene	3.6	-	low
toluene	2.73	90	low
cyclohexanone	0.86	-	low

D. Mobility in soil

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

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

Section 13. Disposal considerations

A. 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.

B. Disposal precautions : 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.

Section 14. Transport information

	UN	IMDG	IATA
A. UN number	UN1263	UN1263	UN1263
B. UN proper shipping name	PAINT	PAINT	PAINT
C. Transport hazard class(es)	3 	3 	3 
D. Packing group	III	III	III
E. 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.
IMDG Code Segregation group Not applicable

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

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

A. Regulation according to ISHA

ISHA article 117 (Harmful substances prohibited from manufacture) : None of the components are listed.

ISHA article 118 (Harmful substances requiring permission) : None of the components are listed.

Article 2 of Youth Protection Act on Substances Hazardous to Youth : Not applicable.

Exposure Limits of Chemical Substances and Physical Factors

The following components have an OEL:
n-butyl acetate
xylene
4-methylpentan-2-one
ethylbenzene
toluene
cyclohexanone

ISHA Enforcement Regs Annex 19 (Exposure standards established for harmful factors) : The following components are listed: toluene, cyclohexanone

ISHA Enforcement Regs Annex 21 (Harmful factors subject to Work Environment Measurement) : The following components are listed: n-butyl acetate, xylene, mica, methyl isobutyl ketone, titanium dioxide, aluminum and its compounds, ethyl benzene

ISHA Enforcement Regs Annex 22 (Harmful Factors Subject to Special Health Check-up) : The following components are listed: Xylene, Methyl isobutyl ketone, Aluminum and its compounds, Ethyl benzene

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control) : The following components are listed: n-butyl acetate, xylene, methyl isobutyl ketone, titanium dioxide, aluminum and its compounds, ethyl benzene

B. Regulation according to Chemicals Control Act

Article 11 (TRI) : The following components are listed: Xylene including o-,m-,p- isomer, Aluminium and its compounds, Ethylbenzene

Article 18 Prohibited (K-Reach Article 27) : None of the components are listed.

Article 19 Subject to authorization (K-Reach Article 25) : None of the components are listed.

Article 20 Toxic Chemicals (K-Reach Article 20) : Not applicable

Article 20 Restricted (K-Reach Article 27) : None of the components are listed.

Article 39 (Accident Precaution Chemicals) : None of the components are listed.

Section 15. Regulatory information

Existing Chemical Substances Subject to Registration : The following components are listed: Xylene; Dimethylbenzene, Toluene, Quartz, 3,3'-Dichloro-(1,1'-biphenyl)-4,4'-diamine, 2-Ethylhexanoic acid zinc salt, basic

C. Dangerous Materials Safety Management Act : **Class:** Class 4 - Flammable Liquid
Item: 4. Class 2 petroleums - Water-insoluble liquid
Threshold: 1000 L
Danger category: III
Signal word: Contact with sources of ignition prohibited

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

E. Regulation according to other foreign laws

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

A. References : - Registry of Toxic Effects of Chemical Substances
- United States Environmental Protection Agency ECOTOX

B. Date of issue/Date of revision : 21 March 2023

C. Version : 2

Unique ID :

Date of printing : **7 April 2023**

D. Other

Indicates information that has changed from previously issued version.

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

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.