SAFETY DATA SHEET

SIGMACOVER 256/435/456/522 HARDENER



Date of issue 16 April 2024

Version 4.01

1. Product and company identificationProduct name: SIGMACOVER 256/435/456/522 HARDENERProduct code: 000001188706Other means of: 00444903; 00444904identification.Product type: Liquid.

Relevant identified uses of t	he substance or mixture and uses advised against
Product use	: Professional applications, Used by spraying.
Use of the substance/ mixture	: Coating.
Uses advised against	: Not applicable.
Supplier's details	: PPG PMC Japan Co., Ltd., 8F, Shintetsu Bldg., 1-1, Daikaidori 1-chome, Kobe 652-0803 Japan; Tel: +81-78-574-2777
Emergency telephone number	: 078 574 2777

2. Hazards identification

GHS Classification	: FLAMMABLE LIQUIDS - Category 3
	ACUTE TOXICITY (inhalation) - Category 4
	SKIN CORROSION - Category 1
	SERIOUS EYE DAMAGE - Category 1
	SKIN SENSITIZATION - Category 1
	CARCINOGENICITY - Category 2
	TOXIC TO REPRODUCTION - Category 1B
	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1
	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract
	irritation) - Category 3
	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
	HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 2
	HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD -
	Category 2
GHS label elements	
Hazard pictograms	
	$\langle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \rangle \rangle \langle \langle \langle \langle \langle \langle \rangle \rangle \rangle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \langle \langle \rangle \rangle \langle \langle \langle \langle \langle \rangle \rangle \langle $
	$\bullet \bullet $
Signal word	: Danger
-	

2. Hazards identification		
Hazard statements	 Flammable liquid and vapor. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs. (central nervous system (CNS), kidneys, liver, respiratory organs) Causes damage to organs through prolonged or repeated exposure. (hearing organs, nervous system, respiratory organs) Toxic to aquatic life with long lasting effects. 	
Precautionary statements		
Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.	
Response	: Collect spillage. IF exposed or concerned: Call a POISON CENTER or doctor. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water Immediately call a POISON CENTER or doctor. Wash contaminated clothing 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 Immediately call a POISON CENTER or doctor.	
Storage	: Store locked up. Store in a well-ventilated place. Keep container tightly closed.	
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.	
Other hazards which do not result in classification	: Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.	

3. Composition/information on ingredients

Substance/mixture

: Mixture

CAS number/other identifiers			
CAS number: Not applicable.CSCL number: Not available.			
Ingredient name	%	CAS number	CSCL
Fobutyl alcohol Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	20 - <25 20 - <25	78-83-1 68082-29-1	2-3049 7-401
Ethylbenzene Xylene	15 - <20 12.5 - <15	100-41-4 1330-20-7	3-28; 3-60 3-3; 3-60
2,4,6-Tris(dimethylaminomethyl)phenol Triethylenetetramine	3 - <5 1 - <2	90-72-2 112-24-3	3-714; 3-762; 3-776 2-163; 7-5
		Japa	n Page: 2/15

Product code 000001188706

Product name SIGMACOVER 256/435/456/522 HARDENER

3. Composition/information on ingredients

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.

SUB codes represent substances without registered CAS Numbers.

4. First aid measures

Description of necess	ary first aid measures
Eye contact	 Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
Inhalation	 Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Skin contact	 Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
Ingestion	 If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effec	ts
Eye contact	: Causes serious eye damage.
Inhalation	: Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
Skin contact	: Causes severe burns. Causes damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
Ingestion	: Corrosive to the digestive tract. Causes burns. Causes damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.
Over-exposure signs/symp	<u>toms</u>
Eye contact	: Adverse symptoms may include the following: pain watering redness
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations
	Japan Page: 3/15

Product code 000001188706 Product name SIGMACOVER 256/435/456/522 HARDENER		Date of issue 16 April 2024 Version 4.01 6/435/456/522 HARDENER
4. First aid measu	Ire	;
Ingestion		Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations
Indication of immediate me	aicai	attention and special treatment needed, if necessary
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.
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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

5. Fire-fighting me	easures
Extinguishing media	
Suitable extinguishing media	: Use dry chemical, CO ₂ , 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 toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon oxides nitrogen oxides halogenated compounds
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

entering. Do not touch or walk through spilled material. Shut off all ignition source No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provid	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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. P on appropriate personal protective equipment.	•
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6. Accidental relea	se measures		
For emergency responders		ed to deal with the spillage, take no able and unsuitable materials. See ency personnel".	
Environmental precautions	and sewers. Inform the releval pollution (sewers, waterways, s	rial and runoff and contact with soil nt authorities if the product has cau soil or air). Water polluting materia arge quantities. Collect spillage.	ised environmental
Methods and materials for co	ntainment and cleaning up		
Small spill	explosion-proof equipment. Di Alternatively, or if water-insolut	containers from spill area. Use sp lute with water and mop up if water ole, absorb with an inert dry materia atainer. Dispose of via a licensed w	-soluble. al and place in an
Large spill	explosion-proof equipment. Ap sewers, water courses, basem effluent treatment plant or proor combustible, absorbent materia and place in container for dispo Dispose of via a licensed waster material may pose the same ha	containers from spill area. Use sp oproach release from upwind. Prevents or confined areas. Wash spill eed as follows. Contain and collect al e.g. sand, earth, vermiculite or disposal according to local regulations (e disposal contractor. Contaminate azard as the spilled product. Note: and Section 13 for waste disposal	vent entry into ages into an et spillage with non- iatomaceous earth see Section 13). ed absorbent see Section 1 for

7. Handling and storage

Precautions for safe handling	: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
Conditions for safe stor	200 : Store between the following temperatures: 0 to 35° C (32 to 05° E). Store in accordance

Conditions for safe storage :	store between the following temperatures: 0 to 35°C (32 to 95°F). 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
	containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name		Exposure limits
sobutyl alcohol		Japan Society for Occupational Health (Japan, 9/2022). OEL-M: 150 mg/m ³ 8 hours. OEL-M: 50 ppm 8 hours. Industrial Safety and Health Act (Japan, 6/2020). TWA: 50 ppm 8 hours.
Ethylbenzene		Japan Society for Occupational Health (Japan, 9/2022). Absorbed through skin. OEL-M: 87 mg/m ³ 8 hours. OEL-M: 20 ppm 8 hours. Industrial Safety and Health Act (Japan, 6/2020). TWA: 20 ppm 8 hours.
Xylene		Industrial Safety and Health Act (Japan, 6/2020). [xylene] TWA: 50 ppm 8 hours. Japan Society for Occupational Health (Japan, 9/2022). OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m ³ 8 hours.
Recommended monitoring procedures	: Reference should be made to approprinational guidance documents for meth substances will also be required.	iate monitoring standards. Reference to ods for the determination of hazardous
Appropriate engineering controls	or other engineering controls to keep w below any recommended or statutory l	se process enclosures, local exhaust ventilation vorker exposure to airborne contaminants imits. The engineering controls also need to s below any lower explosive limits. Use
Environmental exposure controls	they comply with the requirements of e	cess equipment should be checked to ensure environmental protection legislation. In some eering modifications to the process equipment to acceptable levels.
ndividual protection measu	res	
Hygiene measures	eating, smoking and using the lavatory Appropriate techniques should be used Contaminated work clothing should no	d to remove potentially contaminated clothing. t be allowed out of the workplace. Wash Ensure that eyewash stations and safety
Eye protection	: Chemical splash goggles and face shie	eld.
<u>Skin protection</u>		
<u>Skin protection</u> Hand protection	be worn at all times when handling che this is necessary. Considering the par- check during use that the gloves are st should be noted that the time to breakt	ers. In the case of mixtures, consisting of

8. Exposure controls/personal protection

	estimated.
Gloves	: nitrile neoprene
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.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

9. Physical and chemical properties

Appearance		
Physical state	: Liquid.	
Color	: Clear.	
Odor	: Aromatic.	
Boiling point	: >37.78°C (>100°F)	
Flash point	: Closed cup: 27°C (8	0.6°F)
Relative density	: 0.92	
Colubility/ico)	Media	Result
Solubility(ies)	cold water	Not soluble
	L	

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	: When exposed to high temperatures may produce hazardous decomposition products.			
Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.			
Hazardous decomposition products	: Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides halogenated compounds			

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
isobutyl alcohol	LC50 Inhalation Vapor	Rat	24.6 mg/l	4 hours
-	LD50 Dermal	Rabbit	2460 mg/kg	-
	LD50 Oral	Rat	2830 mg/kg	-
Fatty acids, C18-unsatd.,	LD50 Dermal	Rat	>2000 mg/kg	-
dimers, oligomeric reaction				
products with tall-oil fatty				
acids and				
triethylenetetramine				
	LD50 Oral	Rat	>2000 mg/kg	-
Ethylbenzene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
Xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
2,4,6-Tris	LD50 Dermal	Rabbit	1.28 g/kg	-
(dimethylaminomethyl)				
phenol				
	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
Triethylenetetramine	LD50 Dermal	Rabbit	1465 mg/kg	-
	LD50 Oral	Rat	1716 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Atty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Eyes - Severe irritant	Rabbit	-	-	-
-	Skin - Irritant	Human	-	-	-
Xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	
2,4,6-Tris (dimethylaminomethyl) phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Atty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	skin	Mouse	Sensitizing
Triethylenetetramine	skin	Guinea pig	Sensitizing

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
is obutyl alcohol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Ethylbenzene	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Xylene	Category 1	-	central nervous system (CNS), kidneys, liver, respiratory organs
Triethylenetetramine	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	• •	Route of exposure	Target organs
Ethylbenzene	Category 1	-	hearing organs, nervous system
Xylene	Category 1	-	nervous system, respiratory organs

Aspiration hazard

Name Result	
Ethylbenzene	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1

Information on the likely	: Not available.
routes of exposure	

Potential acute health effects

Eye contact	: Causes serious eye damage.
Inhalation	: Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
Skin contact	: Causes severe burns. Causes damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
Ingestion	: Corrosive to the digestive tract. Causes burns. Causes damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

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

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Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

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

<u>Short term exposure</u>		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Long term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Potential chronic health eff	<u>'S</u>	
General	Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatic Once sensitized, a severe allergic reaction may occur when subsequently expose to very low levels.	itis.
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	May damage fertility or the unborn child.	

Numerical measures of toxicity 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)
GMACOVER 256/435/456/522 HARDENER isobutyl alcohol Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	6400.3 2830 2500	3057.5 2460 2500	N/A N/A N/A	14.1 11 N/A	N/A N/A N/A
Ethylbenzene Xylene 2,4,6-Tris(dimethylaminomethyl)phenol Triethylenetetramine	3500 4300 1200 N/A	17800 1700 1280 300	N/A N/A N/A N/A	17.8 11 N/A N/A	N/A N/A N/A N/A

Other information

Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
isobutyl alcohol Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Acute EC50 1100 mg/l EC10 1.78 mg/l	Daphnia Algae	48 hours 72 hours
Ethylbenzene 2,4,6-Tris (dimethylaminomethyl)phenol	Acute EC50 1.8 mg/l Fresh water Chronic NOEC 1 mg/l Fresh water Acute LC50 175 mg/l	Daphnia Daphnia - <i>Ceriodaphnia dubia</i> Fish	48 hours - 96 hours

Persistence/degradability

Product/ingredient name	Test	Result	Result			Inoculum
Ethylbenzene	-	79 % - R	79 % - Readily - 10 days			-
Product/ingredient name	Aquatic ha	If-life	Photolysis		Biode	gradability
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine Ethylbenzene Xylene	-		-		Not rea Readil	y

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
sobutyl alcohol	1	-	Low
Ethylbenzene	3.6	79.43	Low
Xylene	3.12	7.4 to 18.5	Low
2,4,6-Tris (dimethylaminomethyl)phenol	0.219	-	Low
Triethylenetetramine	-1.66 to -1.4	-	Low

<u>Mobility in soil</u>	
Soil/water partition coefficient (Koc)	: Not available.
Mobility	: Not available.
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

14. Transport information

	UN	IMDG	ΙΑΤΑ
UN number	UN3469	UN3469	UN3469
UN proper shipping name	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
Transport hazard class(es)	3 (8)	3 (8)	3 (8)
Packing group	III	III	II
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

UN	: None identified.
IMDG	: None identified.

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 applicable. to IMO instruments

15. Regulatory information

Fire Service Law

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

Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%		Reference number
Ethylbenzene	16	Class 1	53
Xylene	13	Class 1	80
Triethylenetetramine	1.8	Class 2	278

Industrial Safety and Health Act

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

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

Substance(s) requiring labelling

Ingredient name	%		Reference number
Ethylbenzene	≥20 - ≤30	Listed	477
	≥10 - ≤20	Listed	70
	≥10 - ≤20	Listed	136

Chemicals requiring notification

Ingredient name	%	Status	Reference number
Ethylbenzene	≥20 - ≤30	Listed	477
	≥10 - ≤20	Listed	70
	≥10 - ≤20	Listed	136

Carcinogens based on Article 577-2 of the Ordinance on ISH

None of the components are listed.

<u>Mutagen</u>

None of the components are listed.

Corrosive liquid

: Not listed

15. Regulatory information **Occupational Safety and** : Inflammable **Health Law Regulations on the** : Not listed **Prevention of Tetraalkyl** Lead Poisoning **Harmful Substances** : Not listed Subject to Obtaining **Permission for** Manufacturing Harmful Substances, : Not listed **Prohibited for** Manufacturing **ISHL Enforcement Order** : Inflammable **Appendix 1 - Dangerous Substances**

SubstancesLead regulation: Not listedOrganic solvents: Class 2poisoning prevention

Poisonous and Deleterious Substances

None of the components are listed.

Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
Ethylbenzene	≥10 - ≤20	Priority assessment	50
Xylene	≥10 - ≤20	Priority assessment	125
Toluene	≤10	Priority assessment	46
Benzene	≤10	Priority assessment	45

High Pressure Gas Control : Not available. Law

Explosives Control Law

None of the components are listed.

Law concerning prevention : Not available. of pollution of the ocean

Maritime Safety Law

Notification Regulating Transportation of Dangerous Materials by Sea

None of the components are listed.

Container class

None of the components are listed.

JSOH Carcinogen	: Group 2B
List of Specially Controlled Industrial Waste	: Not listed
Japan inventory	: All components are listed or exempted.
Road law	: Not available.

16. Other information

<u>History</u>	
Date of issue/Date of revision	: 16 April 2024
Date of previous issue	: 8/11/2023
Version	: 4.01
Prepared by	: EHS
Key to abbreviations	 ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail UN = United Nations

✓ Indicates information that has changed from previously issued version.

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