SAFETY DATA SHEET

LOW SULPHUR FUEL OIL WITH FAME CONTENT (BIOFUEL)

SDS # :C3DVPSGMC

Section 1. Identification

Product identifier : LOW SULPHUR FUEL OIL WITH FAME CONTENT (BIOFUEL)

Other means of identification : RMG 380 with FAME

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

Identified uses
Fuel used in marine applications : diesel engines and boilers. Formulation & (re)packing of substances and mixtures - Industrial Use as a fuel - Industrial Use as a fuel - Professional

Supplier's details :

TotalEnergies Marine Fuels Pte Ltd
182 Cecil Street
#27-01 Frasers Tower
Singapore 069547
Tel : +65 6849 5266

ms.ap-sds@totalenergies.com

TotalEnergies Marketing Asia-Pacific Middle East Pte. Ltd.
182 Cecil Street
#27-01 Frasers Tower
Singapore 069547
Tel: +65 6879 2200

ms.ap-sds@totalenergies.com

Emergency telephone number (with hours of operation) :

Asia-Pacific: +65 3158 1074

Section 2. Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY (inhalation) - Category 4
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 1B
TOXIC TO REPRODUCTION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements, including precautionary statements

Hazard pictograms :

Signal word : Danger

Hazard statements : Harmful if inhaled.
Suspected of causing genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure. (blood, liver, thymus)
Very 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. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.

Response : Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

Storage : Store locked up.

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

Other hazards which do not result in classification : Vapors may form explosive mixtures with air.
Vapor may be irritating to eyes and respiratory system.
Contact with hot material causes thermal skin burns.
Hydrogen sulphide can accumulate in the head space of storage tanks containing this product and can reach potentially hazardous concentrations
Hazard of slipping on spilled product.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : RMG 380 with FAME

Ingredient name	% (w/w)	Identifiers
Fuel oil, residual	≥10	CAS: 68476-33-5 EC: 270-675-6

Additional information : Contains: Mixture of C16-C18 fatty acids methyl esters
Contains: Sulphur, or Sulfur
Hydrogen sulphide can accumulate in the head space of storage tanks containing this product and can reach potentially hazardous concentrations
Component: % (v/v)

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.

Chemical formula : Not applicable.

Section 4. First aid measures

Description of necessary first aid measures

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.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that vapors 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Vapor may be irritating to eyes and respiratory system.
May cause mild reversible eye irritation.
watering
redness
Risk of burns (if the product is hot)

Inhalation : respiratory tract irritation
Can cause central nervous system (CNS) depression.
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
Intoxication (Hydrogen sulphide)

Skin contact : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Risk of burns (if the product is hot)

Ingestion : Not an expected route of exposure.
nausea or vomiting
stomach pains
diarrhea

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

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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : on small fires:
Use dry chemical, CO_2, alcohol-resistant foam or water spray (fog). Sand.
large fires:
Foam, Water fog (trained personnel only)

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very 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 : Carbon dioxide (CO_2).
carbon monoxide
sulfur oxides (SO_2, SO_3 etc.)
fumes

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.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Gloves made of PVA are not water-resistant, and are not suitable for emergency use

Remark : Not considered explosive based on chemical structure and oxygen balance considerations

Section 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Product may release hydrogen sulphide: a specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water and unintentional releases should be made to help determine controls appropriate to local circumstances.
Hazard of slipping on spilled product.

For emergency responders : Gloves made of PVA are not water-resistant, and are not suitable for emergency use
See Section 8 of the safety data sheet (personal protective equipment). See also the information in "For non-emergency personnel".
In an emergency or for exceptional short-lasting jobs in an atmosphere polluted by the product, it is necessary to wear protective respiratory equipment.: Self-contained breathing apparatus.

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. Collect spillage.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. 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. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). 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. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. 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. 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.

If the working temperature is higher than the flash point : Ground and bond container and receiving equipment.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

Advisory OEL : Hydrogen sulphide (EU): OEL = 7 mg/m3, 5ppm (8 h), 14 mg/m3, 10ppm (short-time). (US) ACGIH: TLV-TWA = 1ppm, 1.4 mg/m3/ TLV-STEL = 5ppm, 7mg/m3. NIOSH: REL = 10ppm, 10 minute ceiling. IDHL = 100ppm

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.

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.

Individual protection measures

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.

Eye/face protection : Work helmet with face shield and neck cloth (full head protection) Tightly-fitting goggles.

Skin protection

Hand protection : Hydrocarbon-proof gloves for aromatic hydrocarbons.
Glove material: nitrile rubber, neoprene rubber
Wear suitable gloves tested to EN374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Body protection : disposable overall Chemical-resistant protective suit.
Non-skid safety shoes or boots Wear rubber boots.

Respiratory protection : Maintain adequate ventilation
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. Respirator with combination filter for vapor/particulate Type A/P2
To enter tankers, tanks, reservoirs where the oxygen content is too low, wear insulating respiratory apparatus
Approved respiratory protection equipment shall be used in spaces where hydrogen sulphide may accumulate: full face mask with cartridge/filter type “B” (grey for inorganic vapours including H2S) or self-contained breathing apparatus (SCBA). (EN 529)
The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

Appearance

Physical state : Liquid. [Viscous]

Color : Brown. to dark green or dark brown to Black.

Odor : Hydrocarbon-like

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point : 160 to 750°C (320 to 1382°F) [EN 15199]

Flash point : Closed cup: >60°C (>140°F) [ASTM D 93]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.5%
Upper: 5%

Vapor pressure : Not available.

Vapor density : >5 [Air = 1]

Relative density : 0.84 to 1.1 [ISO 12185]

Density : 0.84 to 1.1 g/cm³ [15°C] [ISO 12185]

Solubility(ies) :

Media	Result
water	Not soluble

Miscible with water : No.

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

Auto-ignition temperature : 220 to 550°C (428 to 1022°F) [DIN 51794]

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): 30 to 700 mm^2/s (30 to 700 cSt) [ISO 3104]

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

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

Conditions to avoid : heat, open flames, sparks and static discharge

Incompatible materials : strong acids
Strong oxidizing agents
Halogens

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

SADT : Not available.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
Fuel oil, residual	LC50 Inhalation Dusts and mists	Rat - Male, Female	4.1 mg/l	4 hours	OECD 403
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-	OECD 434
	LD50 Oral	Rat	4320 mg/kg	-	OECD 401

Conclusion/Summary : Based on available data, the classification criteria are met.

Irritation/Corrosion

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Sensitization

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Conclusion/Summary : Based on available data, the classification criteria are met.

Carcinogenicity

Product/substance	Result	Species	Dose	Exposure
Fuel oil, residual	Positive - Dermal - TD	Mouse	-	-

Conclusion/Summary : Based on available data, the classification criteria are met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Product/substance	Result	Species	Dose	Exposure
Fuel oil, residual	Positive - Dermal	Rat	-	-

Conclusion/Summary : Based on available data, the classification criteria are met.

Specific target organ toxicity (single exposure)

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Fuel oil, residual	Category 2	-	blood, liver, thymus

Conclusion/Summary : Based on available data, the classification criteria are met.

Aspiration hazard

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Vapor may be irritating to eyes and respiratory system.
May cause mild reversible eye irritation.
watering
redness
Risk of burns (if the product is hot)

Inhalation : respiratory tract irritation
Can cause central nervous system (CNS) depression.
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
Intoxication (Hydrogen sulphide)

Skin contact : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Risk of burns (if the product is hot)

Ingestion : Not an expected route of exposure.
nausea or vomiting
stomach pains
diarrhea

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

Short term exposure

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 effects

Product/substance	Result	Species	Dose	Exposure
Fuel oil, residual	Sub-chronic NOAEL Dermal	Rat	1 mg/kg Read across	-

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

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : Suspected of causing genetic defects.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
LOW SULPHUR FUEL OIL WITH FAME CONTENT (BIOFUEL)	N/A	N/A	N/A	N/A	4.6
Fuel oil, residual	4320	N/A	N/A	N/A	4.1

Other information :

Not available.

Section 12. Ecological information

Very toxic to aquatic life with long lasting effects.

Toxicity

Product/substance	Result	Species	Exposure	Test
Fuel oil, residual	Acute EL50 0.32 mg/l Fresh water	Algae - *Pseudokirchnerella subcapitata*	72 hours	OECD 201
	Acute EL50 0.22 mg/l	Crustaceans - *Daphnia magna*	48 hours	OECD 202
	Acute LL50 79 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours	OECD 203
	Chronic NOELR 0.05 mg/l Fresh water	Algae - *Pseudokirchnerella subcapitata*	72 hours	OECD 201

Conclusion/Summary : Not available.

Persistence/degradability

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Fuel oil, residual	-	-	Readily

Bioaccumulative potential

Product/substance	$LogK_{ow}$	BCF	Potential
Fuel oil, residual	1.99 to 18.02	0.4 to 71100	High

Mobility in soil

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

Mobility in soil : Given its physical and chemical characteristics, the product generally shows low soil mobility Loss by evaporation is limited

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

Section 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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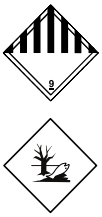
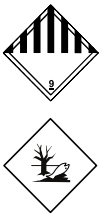
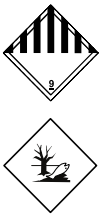
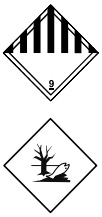
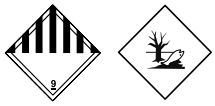
Section 14. Transport information

	UN	IMDG	ICAO/IATA	ADR/RID	ADN
UN/ID No	UN3082	UN3082	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	Environmentally hazardous substance, liquid, n.o.s. (Fuel oil, residual)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)
Transport hazard class (es)	9 	9 	9 	9 	9 
Packing group	III	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes.	Yes.	Yes.

Additional information

UN : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Special provisions 274, 331, 335, 375

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Emergency schedules F-A, S-F
Special provisions 274, 335, 969

ICAO/IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.
Quantity limitation Passenger and Cargo Aircraft: 450 L. Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging instructions: 964. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y964.
Special provisions A97, A158, A197, A215

ADR/RID : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Hazard identification number 90
Limited quantity 5 L
Special provisions 274, 335, 601, 375
Tunnel code (-)

ADN : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Special provisions 274, 335, 375, 601

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

Singapore - hazardous chemicals under government control

None.

National regulations

This Safety Data Sheet (SDS) has been prepared according to Singapore Standard SS 586 on "Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods"

Workplace Safety and Health (General Provision) Regulations

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.

Inventory list

Australia inventory (AIIC)	: All components are listed or exempted.
Canada inventory (DSL/NDSL)	: At least one component is not listed in DSL but all such components are listed in NDSL.
China inventory (IECSC)	: All components are listed or exempted.
Europe inventory (EC)	: All components are listed or exempted.
Japan inventory	: **Japan inventory (CSCL)**: All components are listed or exempted. **Japan inventory (ISHL)**: Not determined.
New Zealand Inventory of Chemicals (NZIoC)	: All components are listed or exempted.
Philippines inventory (PICCS)	: Not determined.
Korea inventory (KECI)	: Not determined.
Taiwan Chemical Substances Inventory (TCSI)	: All components are listed or exempted.
Thailand inventory	: Not determined.
Turkey inventory	: All components are listed or exempted.
United States inventory (TSCA 8b)	: All components are listed or exempted.
Vietnam inventory	: All components are listed or exempted.

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The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

Section 16. Other information

History

Date of revision : 2024/07/16

previous revision date : 2022/06/06

Version : 1.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
GERM CELL MUTAGENICITY - Category 2	Calculation method
CARCINOGENICITY - Category 1B	Calculation method
TOXIC TO REPRODUCTION - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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