

MULTIS EP 2

SDS # : 31157

previous revision date : 2024/10/31

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : MULTIS EP 2

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

Identified uses
Lubricating grease

1.3 Details of the supplier of the safety data sheet

TotalEnergies Lubrifiants
562 Avenue du Parc de L'île
92029 Nanterre Cedex FRANCE
Tél: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 84 71
rm.msds-lubs@totalenergies.com

TotalEnergies Marketing Polska sp. z o.o.
Al. Jana Pawla II 80
00-175 Warszawa, Polska
Tel: +48 22 481 94 00
Fax: +48 22 481 94 01
ms.pl_reach@totalenergies.com

Contact

H.S.E

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : Emergency phone: +48 42 2538 400

Supplier

Telephone number : Emergency phone: +44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

For more details about adverse physical, human health and environmental effects, see sections 9 to 12.

2.2 Label elements

Signal word : No signal word.

Hazard statements : No hazard statement.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : Contains Naphthenic acids, zinc salts. May produce an allergic reaction. Safety data sheet available on request.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Biocidal products regulation

Active substances

Ingredient name	%

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB in a concentration $\geq 0,1\%$.
This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACH Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/substance	Identifiers	% (w/w)	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Distillates (petroleum), hydrotreated heavy paraffinic	REACH #: 01-2119484627-25 EC: 265-157-1 CAS: 64742-54-7	$\geq 25 - \leq 50$	Not classified.	-	[2]
Distillates (petroleum), solvent-dewaxed heavy paraffinic	REACH #: 01-2119471299-27 EC: 265-169-7 CAS: 64742-65-0 Index: 649-474-00-6	$\geq 25 - \leq 50$	Not classified.	-	[2]
Distillates (petroleum), hydrotreated heavy naphthenic	REACH #: 01-2119467170-45 EC: 265-155-0 CAS: 64742-52-5	$\geq 10 - \leq 25$	Not classified.	-	[2]
Residual oils (petroleum),	REACH #:	≤ 10	Not classified.	-	[2]



TotalEnergies

MULTIS EP 2

SDS # : 31157

hydrotreated	01-2119489287-22 EC: 265-160-8 CAS: 64742-57-0				
Residual oils (petroleum), solvent-dewaxed	REACH #: 01-2119480472-38 EC: 265-166-0 CAS: 64742-62-7	≤10	Not classified.	-	[2]
1-Propene, 2-methyl-, sulfurized	EC: 270-943-2 CAS: 68511-50-2	≤3	Aquatic Chronic 4, H413	-	[1]
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	REACH #: 01-2119948548-22 EC: 270-478-5 CAS: 68442-22-8	<2.5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	-	[1]
methyl-1H-benzotriazole	REACH #: 01-2119979081-35 EC: 249-596-6 CAS: 29385-43-1	<1	Acute Tox. 4, H302 Eye Irrit. 2, H319 Repr. 2, H361d Aquatic Chronic 2, H411	ATE [Oral] = 675 mg/kg	[1]
Distillates (petroleum), hydrotreated light naphthenic	REACH #: 01-2119480375-34 EC: 265-156-6 CAS: 64742-53-6 Index: 649-466-00-2	≤1	Not classified.	-	[2]
Distillates (petroleum), hydrotreated light paraffinic	REACH #: 01-2119487077-29 EC: 265-158-7 CAS: 64742-55-8	≤1	Asp. Tox. 1, H304	-	[1] [2]
Naphthenic acids, zinc salts	REACH #: 01-2120783834-41 EC: 234-409-2 CAS: 12001-85-3	<1	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411 See Section 16 for the full text of the H statements declared above.	-	[1]

Additional information : Mineral oil of petroleum origin. Product containing mineral oil with less than 3% DMSO extract as measured by IP 346 The product is made from synthetic base oils

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, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of 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. Get medical attention if irritation occurs.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: irritation dryness cracking
Ingestion	: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: No specific fire or explosion hazard.
Hazardous combustion products	: carbon monoxide carbon dioxide nitrogen oxides phosphorus oxides sulfur oxides Hydrogen sulfide Mercaptans Zinc oxides

5.3 Advice for firefighters

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.
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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.

SECTION 6: Accidental release measures

6.1 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. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 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).

6.3 Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).
See Section 10 for incompatible materials before handling or use.

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

7.2 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. 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.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/substance	Exposure limit values
Distillates (petroleum), hydrotreated heavy paraffinic	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.
Distillates (petroleum), hydrotreated heavy naphthenic	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.
Residual oils (petroleum), hydrotreated	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.
Residual oils (petroleum), solvent-dewaxed	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.
Distillates (petroleum), hydrotreated light naphthenic	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.
Distillates (petroleum), hydrotreated light paraffinic	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.

**Biological Limit Values (BLV)**

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)

DNELs/DMELs

Product/substance	Result
Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu) esters, zinc salts	DNEL - General population - Long term - Oral 0.24 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - General population - Long term - Inhalation 1.98 mg/m ³ <u>Effects</u> : Systemic
	DNEL - General population - Long term - Dermal 5.71 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Inhalation 8.05 mg/m ³ <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Dermal 11.4 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Oral 0.01 mg/kg bw/day <u>Effects</u> : Systemic
methyl-1H-benzotriazole	DNEL - General population - Long term - Dermal 0.01 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Dermal 0.3 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - General population - Long term - Inhalation 350 µg/m ³ <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Inhalation 21.2 mg/m ³ <u>Effects</u> : Systemic
Naphthenic acids, zinc salts	DNEL - General population - Long term - Oral 0.17 ng/kg bw/day



Effects: Systemic

DNEL - General population - Long term - Inhalation

0.29 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

1.18 mg/m³

Effects: Systemic

DNEL - General population - Long term - Dermal

1.7 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Dermal

3.3 mg/kg bw/day

Effects: Systemic

PNECs

Product/substance	Result
Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu) esters, zinc salts	Fresh water 0.004 mg/l
	Marine water 0.0046 mg/l
	Fresh water sediment 0.04508 mg/kg dwt
	Marine water sediment 0.005 mg/kg dwt
	Soil 0.007 mg/kg dwt
	Sewage Treatment Plant 100 mg/l
methyl-1H-benzotriazole	Secondary Poisoning 10.67 mg/kg
	Fresh water 8 µg/l
	Marine water 20 µg/l
	Sewage Treatment Plant 39.4 mg/l
	Fresh water sediment 117 µg/kg dwt
	Marine water sediment 292 µg/kg dwt
Naphthenic acids, zinc salts	Soil 18.7 µg/kg dwt
	Fresh water sediment

15.1 to 19438.4 µg/kg dwt

Marine water sediment

1.51 to 1943.84 µg/kg dwt

Sewage Treatment Plant

689.7 µg/l

Fresh water

4 µg/l

Marine water

400 ng/l

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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 : In case of contact through splashing: safety glasses with side-shields, EN 166.

Skin protection

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.
Hydrocarbon-proof gloves
nitrile rubber
Fluorinated rubber
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.
In case of prolonged contact with the product, it is recommended to wear gloves complying with ISO 21420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness of its use and its replacement frequency

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.
Non-skid safety shoes or boots

Respiratory protection : None under normal use conditions. If these are not sufficient to maintain exposure below the OEL, suitable respiratory protection must be worn (Type A/P1).

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.

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Solid.	
Color	: Brown.	
Odor	: Characteristic.	
pH	: Not applicable.	Product is non-soluble (in water).
Melting point/freezing point	: >180°C [EN ISO 3016]	
Initial boiling point and boiling range	: Not applicable.	
Flash point	: Not applicable.	
Flammability	: Yes.	
Lower and upper explosion limit	: Not applicable.	
Vapor pressure	: Not applicable.	
Vapor density	: Not applicable.	
Relative density	: 0.9	
Density	: 0.9 g/cm ³ [20°C]	
Solubility(ies)	:	

Media	Result
water	Not soluble

Miscible with water	: No.
Partition coefficient: n-octanol/ water	: >3.5
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: >180°C
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not applicable.

Particle characteristics

Median particle size	: Not available.
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9.2 Other information

No other relevant physical and chemical parameters for the safe use of the product

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Stable under recommended storage and handling conditions (see Section 7).
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: No specific data.

10.5 Incompatible materials : Strong oxidizing agents

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

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/substance	Result
1-Propene, 2-methyl-, sulfurized	Rat - Oral - LD50 8.6 g/kg <u>Toxic effects:</u> Eye - Chromodacryorrhea Behavioral - Ataxia Gastrointestinal - Hypermotility, diarrhea
Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu) esters, zinc salts	Rat - Oral - LD50 >2000 mg/kg EPA Rabbit - Dermal - LD50 >2000 mg/kg OECD Acute Dermal Toxicity
methyl-1H-benzotriazole	Rat - Oral - LD50 675 mg/kg Rat - Male, Female - Oral - LD50 720 mg/kg OECD 401 Rabbit - Male, Female - Dermal - LD50 >2000 mg/kg OECD 402
Naphthenic acids, zinc salts	Rat - Oral - LD50 4920 mg/kg Rabbit - Dermal - LD50 2500 mg/kg Mouse - Female - Oral - LD50 >2000 mg/kg OECD 401

Acute toxicity estimates

Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
1-Propene, 2-methyl-, sulfurized	8600	N/A	N/A	N/A	N/A
methyl-1H-benzotriazole	675	N/A	N/A	N/A	N/A
Naphthenic acids, zinc salts	4920	2500	N/A	N/A	N/A

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

Skin corrosion/irritation

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

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met. The supplier of one or more of the components contained within this formulation has indicated that he has data on the components and/or similar mixtures, which confirms that at the concentration used, classification is not required.

Respiratory corrosion/irritation

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

Respiratory or skin sensitization

Skin

Based on available data, the classification criteria are not met. Contains Sensitizer. May produce an allergic reaction.

Respiratory

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Specific target organ toxicity (single exposure)

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

Specific target organ toxicity (repeated exposure)

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

Aspiration hazard

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	: No known significant effects or critical hazards.
Skin contact	: Defatting to the skin. May cause skin dryness and irritation.
Ingestion	: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: irritation dryness cracking
Ingestion	: No specific data.

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

Potential chronic health effects

Product/substance	Result
Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu) esters, zinc salts	Sub-acute - Rat - Oral - NOAEL OECD [Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test] 160 mg/kg
methyl-1H-benzotriazole	Sub-chronic - Rat - Male, Female - Oral - NOAEL OECD [407] 150 mg/kg [7 days per week] [28 days]

General	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/substance	Result
1-Propene, 2-methyl-, sulfurized	Acute - EC50 Algae >100 mg/l [72 hours] Acute - LC50 Fish 1000 mg/l [96 hours] Acute - EC50 Daphnia 1000 mg/l [48 hours]
Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu) esters, zinc salts	Acute - EC50 Algae - <i>Scenedesmus subspicatus</i> OECD 201 24 mg/l [72 hours] Acute - LC50 Fish 4.5 mg/l [96 hours] Acute - EC50 Daphnia - <i>Daphnia Magna</i> OECD 202 23 mg/l [48 hours] Acute - NOEC Daphnia - <i>Daphnia Magna</i> 0.4 mg/l [21 days]



methyl-1H-benzotriazole

Acute - LC50 - Marine waterFish - *Cyprinodon variegatus*

OECD 203

55 mg/l [96 hours]

Effect: Mortality**Acute - NOEC - Marine water**Fish - *Cyprinodon variegatus*

OECD 203

30 mg/l [96 hours]

Effect: Mortality**Acute - EC50 - Fresh water**

Daphnia

OECD 202

8.58 mg/l [48 hours]

Effect: Mobility**Chronic - NOEC - Fresh water**

Daphnia

OECD 211

0.4 mg/l [21 days]

Effect: Reproduction**Acute - EC10 - Fresh water**Algae - *Desmodesmus subspicatus*

OECD 201

1.18 mg/l [72 hours]

Effect: (growth rate)

Naphthenic acids, zinc salts

Acute - LC50 - Fresh waterFish - Bluegill - *Lepomis macrochirus*

US EPA

92 ppm [96 hours]

Effect: Mortality**Acute - EC50**Daphnia - *Daphnia magna*

100 mg/l [48 hours]

Acute - EC50Algae - *Pseudokirchneriella subcapitata*

OECD 201

4 mg/l [72 hours]

Chronic - NOECAlgae - *Pseudokirchneriella subcapitata*

OECD 201

1 mg/l [72 hours]

12.2 Persistence and degradability

Not available.

Product/substance	Aquatic half-life	Photolysis	Biodegradability



Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	-	-	Not readily
methyl-1H-benzotriazole	-	-	Not readily
Naphthenic acids, zinc salts	-	-	Not readily

12.3 Bioaccumulative potential

Product/substance	LogK _{ow}	BCF	Potential
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	>3.5 1.67	- -	Low Low
methyl-1H-benzotriazole	1.081	-	Low
Naphthenic acids, zinc salts	1.89 to 11.15	-	High

12.4 Mobility in soil**Soil/Water partition coefficient**

Not available.

Results of PMT and vPvM assessment

Product/substance	PMT	P	M	T	vPvM	vP	vM
Propene, 2-methyl-, sulfurized	No	No	No	No	No	No	No
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	No	No	No	No	No	No	No
methyl-1H-benzotriazole	No	No	No	Yes	No	No	No
Naphthenic acids, zinc salts	No	No	No	No	No	No	No

Mobility : Not available.**Mobility in soil** : Given its physical and chemical characteristics, the product has no soil mobility.
The product is insoluble and floats on water. Loss by evaporation is limited.**12.5 Results of PBT and vPvB assessment****Regulation (EC) No. 1272/2008 [CLP]**

Product/substance	PBT	P	B	T	vPvB	vP	vB
Propene, 2-methyl-, sulfurized	No	No	No	No	No	No	No
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	No	No	No	No	No	No	No
methyl-1H-benzotriazole	No	No	No	Yes	No	No	No
Naphthenic acids, zinc salts	No	No	No	No	No	No	No

Conclusion/Summary : The product does not meet the criteria to be considered as a PBT or vPvB.**Regulation (EC) No. 1272/2008 [CLP]****12.6 Endocrine disrupting properties**

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : 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. Should not be released into the environment.

Hazardous waste : Yes.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: 12 01 12*

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO/IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Labeling : Not applicable.

Other EU regulations

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Industrial emissions
(integrated pollution
prevention and control) -
Air** : Not listed

**Industrial emissions
(integrated pollution
prevention and control) -
Water** : Not listed

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

National regulatory information

1. Act of 25 February 2011 on Chemical Substances and their Mixtures (Journal of Laws [Dz.U.] No. 63, Item 322, of 2011) as amended (Journal of Laws of 2015, Item 675) and ORDINANCE OF THE MARSHALL OF THE REPUBLIC OF POLAND of 24 November 2017 concerning announcement of a consolidated text of the Chemical Substances and their Mixtures Act (Journal of Laws [Dz.U.] of 17 January 2018, Item 143). 2. REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (EC) NO. 1272/2008 of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the European Union, series L, No. 353, of 31 December 2008) as amended (adjustments to technical progress 1 - 13 ATP). 3. Regulation of the Minister of Economy of 21 December 2005, concerning the essential requirements regarding individual protection measures (Journal of Laws [Dz. U.] No. 259 of 2005, Item 2173). 4. Regulation of the Minister of Family, Labour



and Social Policy of 12 June 2018, concerning the maximum admissible concentration and intensification of agents harmful to health in the work environment (Journal of Laws [Dz. U.] of 2018, Item 1286) 5. Regulation of the Minister of Health of 2 February 2011, concerning the testing and measurement of agents harmful to health in the work environment (Journal of Laws [Dz. U.] of 2011, No. 33, Item 166) 6. Notice of the Minister of Health of 9 September 2016 concerning promulgation of the consolidated text of the Regulation of the Minister of Health concerning occupational safety and hygiene in connection with presence of chemical agents at workplace (Journal of Laws [Dz. U.] of 2016, Item 1488) 7. Government Statement of 26 July 2005 concerning entry into force of amendments to Annexes A and B of the European Agreement concerning the international carriage of dangerous goods by road (ADR) prepared in Geneva on 30 September 1957. (Journal of Laws [Dz. U.] No. 178, Item 1481, of 2005, as amended) 8. Waste Act of 14 December 2012 (Journal of Laws [Dz. U.] Item 21, 2013, as amended) 9. Act of 20 July 2018 on amendment of the Waste Act and certain other laws (Journal of Laws [Dz. U.] of 2018, Item 1592) 10. Act of 13 June 2013 on management of packaging and packaging waste (Journal of Laws [Dz. U.] of 2013, Item 888) 11. REGULATION OF THE MINISTER OF ENVIRONMENT of 9 December 2014 concerning catalogue of waste (Journal of Laws [Dz. U.] of 2014, Item 1923) 12. Act of 29 July 2005 on amendment of the Waste Act and certain other laws (Journal of Laws [Dz. U.] of 175, Item 1458, 2005) 13. Regulation (EC) 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European [...] Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Official Journal of the European Union series L No. 396 of 30 December 2006, as amended)

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 (AIIIC)

: All components are listed or exempted.

Canada inventory (DSL/NDL)

: All components are listed or exempted.

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): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC)

: ☒ At least one component is not listed.

Philippines inventory (PICCS)

: All components are listed or exempted.

Korea inventory (KECI)

: All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI)

: All components are listed or exempted.

Thailand inventory

: Not determined.

Turkey inventory

: Not determined.

United States inventory (TSCA 8b)

: All components are listed or exempted.

Vietnam inventory

: Not determined.



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.

15.2 Chemical Safety Assessment

: Risk management measures and safety conditions of use are included in the relevant sections of the SDS

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ACGIH = American Conference of Governmental Industrial Hygienists
 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
 B = Bioaccumulative
 BCF = Bioconcentration Factor
 DNEL = Derived No Effect Level
 DMEL = Derived Minimal Effect Level
 DMSO = Dimethyl Sulfoxide
 EC50 = Half maximal effective concentration
 EL50 = median Effective Loading
 EUH statement = CLP-specific Hazard statement
 HSE = Health, Safety and Environment
 IATA = International Air Transport Association
 IC50 = Half maximal inhibitory concentration
 IDHL = Immediately dangerous to life or health
 IMDG = International Maritime Dangerous Goods
 IMO = International Maritime Organization
 LC50 = Median lethal concentration
 LD50 = Median lethal dose
 LL50 = median Lethal Loading
 LogKow = logarithm of the octanol/water partition coefficient
 M = Mobile
 N/A = Not available
 NIOSH = National Institute of Occupational Safety and Health
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 NOEL = No Observed Effect Level
 NOELR = No observed Effect Loading Rate
 OECD = Organisation for Economic Co-operation and Development
 OEL = Occupational Exposure Limit
 P = Persistent
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 QSAR = Quantitative Structure–Activity Relationship
 REL = Recommended Exposure Limit
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 RRN = REACH Registration Number
 SGG = Segregation Group
 STEL = Short Term Exposure Limit
 T = Toxic
 TLV = Threshold Limit Value
 TWA = Time Weight Average
 vB = Very Bioaccumulative
 vM = Very Mobile
 VOC = Volatile Organic Compound
 vP = Very Persistent

SECTION 16: Other information

vPvB = Very Persistent and Very Bioaccumulative
vPvM = Very Persistent and Very Mobile
UFI = Unique Formula Identifier
UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

Full text of abbreviated H statements

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 4	AQUATIC HAZARD (LONG-TERM) - Category 4
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Repr. 2	TOXIC TO REPRODUCTION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1B	SKIN SENSITIZATION - Category 1B

Additional details on the supplier of the product

Date of revision : 1/20/2025

Date of previous issue : 10/31/2024



SECTION 16: Other information

Version : 4

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.