

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

### 1.1 Product identifier

**Product name** : MULTI MOS 2  
**Product code** : 32369  
**Product description** : Not available.  
**Product type** : Solid.  
**Other means of identification** : Not available.

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

#### Identified uses

Not applicable.

#### Uses advised against

Not applicable.

Not applicable.

### 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  
[m.msds-lubs@totalenergies.com](mailto:m.msds-lubs@totalenergies.com)

TotalEnergies Marketing UK Limited  
10 Upper Bank Street (19th floor)  
Canary Wharf,  
London E14 5BF  
UNITED KINGDOM  
Tel: +44 (0)20 7339 8000  
Fax: +44 (0)20 7339 8033  
[m.gb-msds@totalenergies.com](mailto:m.gb-msds@totalenergies.com)

H.S.E

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**Telephone number** : National Poisons Information Service (NPIS): 111

#### Supplier

**Telephone number** : Emergency telephone: +44 1235 239670

**Hours of operation** : Edit the content of sentence <GB Telephone Number - Supplier - Hours of operation> to define this output

**Information limitations** : Edit the content of sentence <GB Telephone Number - Supplier - Information limitations> to define this output

## 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 UK CLP Regulation SI 2019/720 as amended.

**Ingredients of unknown ecotoxicity** : Contains 7% of components with unknown hazards to the aquatic environment

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.

**Hazard statements** : No known significant effects or critical hazards.

#### 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.

### 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

## SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Type
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	[1]
Naphtenic 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  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

**Additional information** : Mineral oil of petroleum origin Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

There are no 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.

## 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 recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. 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

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
dryness  
cracking

## SECTION 4: First aid measures

**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<sub>2</sub>, 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  
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.

**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.

## 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 spilt material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised 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 spilt 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 material for containment and cleaning up

## SECTION 6: Accidental release measures

- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled 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, labelled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
- 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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.


### 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
 Limestone  molybdenum disulphide	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 4 mg/m <sup>3</sup> 8 hours. Form: respirable dust TWA: 10 mg/m <sup>3</sup> 8 hours. Form: inhalable dust TWA: 4 mg/m <sup>3</sup> 8 hours. Form: respirable TWA: 10 mg/m <sup>3</sup> 8 hours. Form: total inhalable <b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> <b>[molybdenum insoluble compounds]</b> STEL: 20 mg/m <sup>3</sup> , (as Mo) 15 minutes. TWA: 10 mg/m <sup>3</sup> , (as Mo) 8 hours.



## MULTI MOS 2

SDS no. 32369  
:

## SECTION 8: Exposure controls/personal protection

**Reportable hazardous constituent(s) contained in UVCB- and/or multi-constituent substance(s) complying with the classification criteria and/or with an exposure limit (OEL)**

No exposure limit value known.

**Recommended monitoring procedures :** If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. 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/m<sup>3</sup>, NIOSH (REL) TWA 5 mg/m<sup>3</sup>, STEL 10 mg/m<sup>3</sup>, ACGIH (TLV) TWA 5 mg/m<sup>3</sup> (highly refined)

## DNELs/DMELs

Product/substance	Type	Exposure	Value	Population	Effects
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	DNEL	Long term Oral	0.24 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	1.98 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	5.71 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	8.05 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	11.4 mg/kg bw/day	Workers	Systemic
Naphthenic acids, zinc salts	DNEL	Long term Oral	0.17 ng/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	290 µg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	1.18 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	3.3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	0.17 ng/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.29 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	1.18 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	1.7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	3.3 mg/kg bw/day	Workers	Systemic

## PNECs

## SECTION 8: Exposure controls/personal protection

Product/substance	Compartment Detail	Value	Method Detail
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	-
	Secondary Poisoning	10.67 mg/kg	-
	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	-
Naphthenic acids, zinc salts	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



## SECTION 8: Exposure controls/personal protection

- 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** : ☒ 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.
- Colour** : Dark grey.
- Odour** : Characteristic.
- Odour threshold** : Not available.
- Melting point/freezing point** : ☒ 180°C [EN ISO 3016]
- Initial boiling point and boiling range** : ☒ Technically not possible to measure
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : ☒ Not applicable.
- Flash point** : ☒ Open cup: Not applicable.
- Auto-ignition temperature** : ☒ Not applicable.
- Decomposition temperature** : ☒ 180°C
- pH** : ☒ Not applicable. ☒ Product is non-soluble (in water).
- Viscosity** : ☒ Kinematic (40°C): Not applicable.
- Solubility(ies)** :

Media	Result
<input checked="" type="checkbox"/> Water	Not soluble

- Miscible with water** : ☒ No.
- Partition coefficient: n-octanol/ water** : ☒ 3.5
- Vapour pressure** : Not available.
- Relative density** : ☒ 0.9 [EN ISO 12185]
- Density** : ☒ 0.9 g/cm³ [20°C (68°F)] [EN ISO 12185]
- Vapour density** : ☒ Not applicable.
- Particle characteristics**
- Median particle size** : ☒ Not available.

### 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 oxidising agents
- 10.6 Hazardous decomposition products** : ☒ carbon monoxide  
carbon dioxide  
phosphorus oxides  
sulfur oxides  
Hydrogen sulfide  
Mercaptans  
Zinc oxides

## SECTION 11: Toxicological information

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

#### Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
<input checked="" type="checkbox"/> Limestone	LD50 Oral	Rat	>5000 mg/kg	-	-
1-Propene, 2-methyl-, sulfurized	LD50 Oral	Rat	8.6 g/kg	-	-
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	LD50 Dermal	Rabbit	>2000 mg/kg	-	OECD 402 Acute Dermal Toxicity
Naphthenic acids, zinc salts	LD50 Oral	Rat	>2000 mg/kg	-	EPA
	LD50 Dermal	Rabbit	2500 mg/kg	-	-
	LD50 Oral	Mouse - Female	>2000 mg/kg	-	OECD 401
	LD50 Oral	Rat	4920 mg/kg	-	-

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

#### Acute toxicity estimates

Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
<input checked="" type="checkbox"/> 1-Propene, 2-methyl-, sulfurized	8600	N/A	N/A	N/A	N/A
Naphthenic acids, zinc salts	4920	2500	N/A	N/A	N/A

#### Irritation/Corrosion

## SECTION 11: Toxicological information

Product/substance	Result	Species	Score	Exposure	Test
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Irritant	Rabbit	-	-	OECD 404 Acute Dermal Irritation/Corrosion
Naphthenic acids, zinc salts	Skin - Mild irritant	Rabbit	-	0.5 MI	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

### Conclusion/Summary

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

### Sensitisation

Product/substance	Route of exposure	Species	Result
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts Naphthenic acids, zinc salts	skin	Guinea pig	Not sensitizing
	skin	Human	Sensitising

### Conclusion/Summary

- 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.

### Mutagenicity

Product/substance	Test	Experiment	Result
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Cell: Somatic	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative

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

### Carcinogenicity

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

### Reproductive toxicity

## SECTION 11: Toxicological information

Product/substance	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	Negative	Negative	Negative	Rat	Oral: 160 mg/kg NOAEL	-

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

### Teratogenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not 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)

Not available.

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

### Aspiration hazard

Not available.

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

**Information on 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** : Adverse symptoms may include the following:  
irritation  
dryness  
cracking
- Ingestion** : No specific data.

### Delayed and immediate effects as well as 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.

## SECTION 11: Toxicological information

### Potential chronic health effects

Product/substance	Result	Species	Dose	Exposure
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	Sub-acute NOAEL Oral	Rat	160 mg/kg	-

<b>Conclusion/Summary</b>	: Not available.
<b>General</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	: No known significant effects or critical hazards.

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

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.

#### 11.2.2 Other information

Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/substance	Result	Species	Exposure	Test
Propene, 2-methyl-, sulfurized	Acute EC50 >100 mg/l	Algae	72 hours	-
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	Acute EC50 1000 mg/l	Daphnia	48 hours	-
	Acute LC50 1000 mg/l	Fish	96 hours	-
	Acute EC50 24 mg/l	Algae - Scenedesmus subspicatus	72 hours	OECD 201
	Acute EC50 23 mg/l	Daphnia - Daphnia Magna	48 hours	OECD 202
Naphthenic acids, zinc salts	Acute LC50 4.5 mg/l	Fish	96 hours	-
	Acute NOEC 0.4 mg/l	Daphnia - Daphnia Magna	21 days	-
	Acute EC50 4 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	OECD 201
	Acute EC50 100 mg/l	Daphnia - Daphnia magna	48 hours	-
	Acute LC50 92 ppm Fresh water	Fish - Lepomis macrochirus	96 hours	US EPA
	Chronic NOEC 1 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	OECD 201

<b>Conclusion/Summary</b>	: Not available.
---------------------------	------------------

### 12.2 Persistence and degradability

<b>Conclusion/Summary</b>	: Not available.
---------------------------	------------------

## SECTION 12: Ecological information

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	-	-	Not readily
Naphthenic acids, zinc salts	-	-	Not readily

### 12.3 Bioaccumulative potential

Product/substance	LogP <sub>ow</sub>	BCF	Potential
MULTI MOS 2	>3.5	-	low
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	1.67	-	low
Naphthenic acids, zinc salts	1.89 to 11.15	-	high

### 12.4 Mobility in soil

Soil/water partition coefficient (K <sub>oc</sub> )	: Not available.
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

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

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.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

Methods of disposal	: The generation of waste should be avoided or minimised 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.
Hazardous waste	: Yes.

## SECTION 13: Disposal considerations

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 minimised 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO/IATA
<b>14.1 UN number or ID number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-	-
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	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 UK (GB) /REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

#### Substances of very high concern

None of the components are listed.

#### Ozone depleting substances

## SECTION 15: Regulatory information

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

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

### Seveso Directive

This product is not controlled under the Seveso Directive.

### 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

### 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

<b>Australia inventory (AIIC)</b>	: All components are listed or exempted.
<b>Canada inventory</b>	: All components are listed or exempted.
<b>China inventory (IECSC)</b>	: All components are listed or exempted.
<b>Europe inventory</b>	: All components are listed or exempted.
<b>Japan inventory</b>	: <b>Japan inventory (CSCL)</b> : All components are listed or exempted.
	<b>Japan inventory (ISHL)</b> : All components are listed or exempted.



## SECTION 15: Regulatory information

New Zealand Inventory of Chemicals (NZIoC)	: <input checked="" type="checkbox"/> At least one component is not listed.
Philippines inventory (PICCS)	: All components are listed or exempted.
Korea inventory (KECI)	: <input checked="" type="checkbox"/> 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** :

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- DMEL = Derived Minimal Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- vPvB = Very Persistent and Very Bioaccumulative
- PNEC = Predicted No Effect Concentration
- LC50 = Median lethal concentration
- LD50 = Median lethal dose
- OEL = Occupational Exposure Limit
- VOC = Volatile Organic Compound
- UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material
- NOEC No Observed Effect Concentration
- QSAR = Quantitative Structure–Activity Relationship

### Procedure used to derive the classification

Not classified.

### Full text of abbreviated H statements

<input checked="" type="checkbox"/> H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

### Full text of classifications

## SECTION 16: Other information

Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1B	SKIN SENSITISATION - Category 1B

**Date of printing** : 2023/06/05

**Date of issue/ Date of revision** : 2023/06/05

**Date of previous issue** : 2021/03/30

**Version** : 2

### 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.