

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

1.1 Product identifier

Product name : HBF 4 OEM+
Product code : 085644
Product description : Not available.
Product type : Liquid.
Other means of identification : Not available.

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

Identified uses

Formulation additives, lubricants and greases - Industrial
General use of lubricants and greases in vehicles or machinery - Industrial
General use of lubricants and greases in vehicles or machinery - Professional
Brake fluids.
Functional fluids

Uses advised against

Not applicable.

1.3 Details of the supplier of the safety data sheet

TotalEnergies Lubrifiants
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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 UK Limited
183 Eversholt St, Kings Cross
London, NW1 1BU
UNITED KINGDOM
Tel: +44 (0)20 7339 8000
Fax: +44 (0)20 7339 8033
rm.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 1: Identification of the substance/mixture and of the company/
undertaking****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]**

Repr. 2, H361d

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

Ingredients of unknown toxicity : 0.9 percent of the mixture consists of component(s) of unknown acute inhalation toxicity

See Section 16 for the full text of the H statements declared above.

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

2.2 Label elements**Hazard pictograms** :**Signal word** : Warning**Hazard statements** : H361d - Suspected of damaging the unborn child.**Precautionary statements****General** : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read carefully and follow all instructions.**Prevention** : P280 - Wear protective gloves, protective clothing and eye or face protection.**Response** : Not applicable.**Storage** : P405 - Store locked up.**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.**Contains** : tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate**Supplemental label elements** : Not applicable.**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**

**SECTION 2: Hazards identification**

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 : Hazard of slipping on spilt product.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	REACH #: 01-2119462824-33 EC: 250-418-4 CAS: 30989-05-0	$\geq 50 - \leq 75$	Repr. 2, H361d	[1]
1,1'-iminodipropen-2-ol	REACH #: 01-2119475444-34 EC: 203-820-9 CAS: 110-97-4 Index: 603-083-00-7	<10	Eye Irrit. 2, H319	[1]
diethylene glycol	REACH #: 01-2119457857-21 EC: 203-872-2 CAS: 111-46-6 Index: 603-140-00-6	≤ 10	Acute Tox. 4, H302	[1] [2]
			See Section 16 for the full text of the H statements declared above.	

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. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**SECTION 4: First aid measures**

- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. 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.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed**Over-exposure signs/symptoms**

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

**SECTION 5: Firefighting measures****5.2 Special hazards arising from the substance or mixture**

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous combustion products** : Carbon monoxide
carbon dioxide
nitrogen 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. 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). 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 ingest. Avoid breathing vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

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. 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 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
2,2' -oxybisethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 101 mg/m ³ 8 hours. TWA: 23 ppm 8 hours.

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 DNELs/DMELs** : No known significant effects or critical hazards.

**SECTION 8: Exposure controls/personal protection**

Product/substance	Type	Exposure	Value	Population	Effects
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	DNEL	Long term Dermal	8.3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	29.1 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	4.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	7.2 mg/m ³	General population	Systemic
	DNEL	Long term Oral	4.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	4.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	4.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	7.2 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	8.3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	29.1 mg/m ³	Workers	Systemic
1,1'-iminodipropan-2-ol	DNEL	Long term Oral	1.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	3.9 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	6.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.12 mg/cm ²	Workers	Local
2,2' -oxybisethanol	DNEL	Long term Dermal	5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	6.4 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	12 mg/m ³	General population	Local
	DNEL	Long term Inhalation	12 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	60 mg/m ³	Workers	Local
	DNEL	Long term Dermal	21 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	43 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	44 mg/m ³	Workers	Systemic

PNECs

**SECTION 8: Exposure controls/personal protection**

Product/substance	Compartment Detail	Value	Method Detail
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	Fresh water sediment	760 µg/kg dwt	-
	Marine water sediment	76 µg/kg dwt	-
	Soil	28.3 µg/kg dwt	-
	Sewage Treatment Plant	100 mg/l	-
1,1'-iminodipropyl-2-ol	Fresh water	211.2 µg/l	-
	Marine water	21.12 µg/l	-
	Fresh water	0.2777 mg/l	-
	Marine water	0.02777 mg/l	-
2,2' -oxybisethanol	Fresh water sediment	2.33 mg/kg dwt	-
	Marine water sediment	0.233 mg/kg dwt	-
	Soil	0.303 mg/kg dwt	-
	Sewage Treatment Plant	15000 mg/l	-
	Fresh water	10 mg/l	-
	Marine water	1 mg/l	-
	Fresh water sediment	20.9 mg/kg dwt	-
	Soil	1.53 mg/kg dwt	-
Sewage Treatment Plant	199.5 mg/l	-	
	Marine water sediment	2.09 mg/kg dwt	-

8.2 Exposure controls**Appropriate engineering controls**

- If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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

- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.



SECTION 8: Exposure controls/personal protection

butyl rubber

nitrile 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.

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 : Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. In case of inadequate ventilation wear respiratory protection: Type A/P2 Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

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** : Liquid.
- Colour** : Yellow.
- Odour** : Characteristic.
- Odour threshold** : Not available.
- Melting point/freezing point** : <-70°C
- Initial boiling point and boiling range** : >260°C (>500°F)
- Flammability (solid, gas)** : Non-flammable.
- Upper/lower flammability or explosive limits** : Lower: 1.5%
- Flash point** : Closed cup: 134°C (273.2°F) [Closed cup]
- Auto-ignition temperature** : >200°C (>392°F)
- Decomposition temperature** : 360°C
- pH** : to 8.5 [Conc. (% w/w): 50%]
- Viscosity** : Kinematic: 15 to 17 mm²/s
- Solubility(ies)** :

**SECTION 9: Physical and chemical properties**

Media	Result
Water	Soluble

Solubility in water	: Not available.
Miscible with water	: Yes.
Partition coefficient: n-octanol/ water	: Not applicable.
Vapour pressure	: <input checked="" type="checkbox"/> 0.1 kPa (<0.75006 mm Hg)
Relative density	: 1.065 to 1.085
Density	: <input checked="" type="checkbox"/> 0.065 to 1.085 g/cm ³ [20°C (68°F)]
Vapour density	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

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	: <input checked="" type="checkbox"/> 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	: <input checked="" type="checkbox"/> Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: <input checked="" type="checkbox"/> Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
10.5 Incompatible materials	: <input checked="" type="checkbox"/> Strong oxidising agents
10.6 Hazardous decomposition products	: <input checked="" type="checkbox"/> Carbon monoxide Carbon dioxide Nitrogen 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"/> Bis[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	LD50 Dermal	Rat	>2000 mg/kg	-	402
	LD50 Oral	Rat	>2000 mg/kg	-	401
1,1'-iminodipropan-2-ol	LC50 Inhalation Vapour	Rat	20.1 mg/l	4 hours	-
	LD50 Dermal	Rabbit	8000 mg/kg	-	-
	LD50 Oral	Rat	4765 mg/kg	-	-
	LD50 Oral	Rat	6000 mg/kg	-	-
diethylene glycol	LD50 Dermal	Rabbit	11890 mg/kg	-	-
	LD50 Dermal	Rabbit	13300 mg/kg	-	-
	LD50 Oral	Rat	12000 mg/kg	-	-

**SECTION 11: Toxicological information**

	LD50 Oral	Rat	500 mg/kg ATE value Category 4	-	TEPA and OECD
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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)
HBF 4 OEM+	5050.5	N/A	N/A	N/A	N/A
1,1'-iminodipropan-2-ol	4765	8000	N/A	20.1	N/A
2,2' -oxybisethanol	500	11890	N/A	N/A	N/A

Irritation/Corrosion

Product/substance	Result	Species	Score	Exposure	Test
1,1'-iminodipropan-2-ol	Eyes - Severe irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
2,2' -oxybisethanol	Skin - Mild irritant	Rabbit	-	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.

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

Sensitisation

Product/substance	Route of exposure	Species	Result
2,2' -oxybisethanol	skin	Guinea pig	Not sensitizing

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

Product/substance	Test	Experiment	Result
2,2' -oxybisethanol	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Cell: Somatic	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	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
2,2' -oxybisethanol	Negative	Negative	Negative	Mouse - Male, Female	Oral	-
	Negative	Negative	Negative	Rat - Male, Female	Oral	-

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

Teratogenicity

Product/substance	Result	Species	Dose	Exposure
2,2' -oxybisethanol	Negative - Oral	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)

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** : 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** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

**SECTION 11: Toxicological information****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
2,2'-oxybisethanol	Sub-acute NOAEL Oral	Rat - Male, Female	936 mg/kg	-
	Sub-chronic NOAEL Oral	Rat - Male, Female	300 mg/kg	-

Conclusion/Summary : Not available.**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** : Suspected of damaging the unborn child.**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**SECTION 12: Ecological information****12.1 Toxicity**

Product/substance	Result	Species	Exposure	Test
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	Acute EC50 >224 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	201
	Acute EC50 >211 mg/l	Crustaceans - Daphnia magna	48 hours	202
	Acute LC50 >222.2 mg/l	Fish - Oncorhynchus mykiss	96 hours	203
1,1'-iminodipropan-2-ol	Chronic NOEC >224 mg/l	Algae	72 hours	OECD 201
	Acute EC50 339 mg/l	Algae - Desmodesmus subspicatus	72 hours	-
	Acute EC50 278 mg/l	Crustaceans - Daphnia magna	48 hours	-
	Acute IC50 15000 mg/l	Micro-organism - Pseudomonas putida	17 hours	-
	Acute LC50 1466 mg/l	Fish - Danio rerio	96 hours	OECD 203
	Chronic EC10 219 mg/l	Algae - Desmodesmus subspicatus	72 hours	-

**SECTION 12: Ecological information**

diethylene glycol	Acute EC50 >100 mg/l	Algae	72 hours	-
	Acute EC50 62600 mg/l	Crustaceans - Daphnia magna	48 hours	-
	Acute LC50 75200000 µg/l Fresh water	Fish - Pimephales promelas	96 hours	-
	Chronic NOEC >100 mg/l	Algae	72 hours	-

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate 1,1'-iminodipropan-2-ol 2,2'-oxybisethanol	OECD 301A	>70 % - Readily - 10 days	-	Activated sludge
	OECD 301F	72 % - Readily - 28 days	-	Activated sludge
	OECD 301B	75 % - Readily - 28 days	-	Activated sludge

Conclusion/Summary : Not available.

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate 1,1'-iminodipropan-2-ol 2,2'-oxybisethanol	-	-	Readily
	-	-	Readily
	-	-	Readily

12.3 Bioaccumulative potential

Product/substance	LogP _{ow}	BCF	Potential
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate 1,1'-iminodipropan-2-ol 2,2'-oxybisethanol	1	-	low
	-0.79	-	low
	-1.98	100	low

12.4 Mobility in soil

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

Mobility : Not available.

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

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.
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: 16 01 13*

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. 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 spilt 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.



SECTION 14: Transport information

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

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

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)

**SECTION 15: Regulatory information**

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	: All components are listed or exempted.
China inventory (IECSC)	: All components are listed or exempted.
Europe inventory	: <input checked="" type="checkbox"/> 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)	: All components are listed or exempted.
Korea inventory (KECI)	: At least one component is not listed.
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.

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 : This product contains substances for which Chemical Safety Assessments are still required.

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

**SECTION 16: Other information****Procedure used to derive the classification**

Classification	Justification
Repr. 2, H361d	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.

Full text of classifications

Acute Tox. 4	ACUTE TOXICITY - Category 4
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2

Date of printing : 2022/09/08**Date of issue/ Date of revision** : 2022/09/08**Date of previous issue** : 2022/01/28**Version** : 2**Notice to reader**

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