

ZOK 27

ZOK International Group

Chemwatch Hazard Alert Code: 4

Version No: 1.1

Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Issue Date: 11/04/2023

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S.REACH.GB.EN

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

1.1. Product Identifier

Product name	ZOK 27
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	UFI:Y300-D0CY-800K-2Y44

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

Relevant identified uses	Gas Turbine Compressor Cleaning Fluid
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	ZOK International Group
Address	Airworthy House Elsted, Midhurst West Sussex United Kingdom
Telephone	+44 (0) 333 700 2727
Fax	Not Available
Website	www.zok.com
Email	zok@zok.com

1.4. Emergency telephone number


Association / Organisation	ZOK International Group
Emergency telephone numbers	+44 (0) 333 700 2727 (08:30 - 17:00 GMT)
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 [1]	H318 - Serious Eye Damage/Eye Irritation Category 1, H302 - Acute Toxicity (Oral) Category 4, H315 - Skin Corrosion/Irritation Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567

2.2. Label elements

Hazard pictogram(s)	
Signal word	Danger

Hazard statement(s)

H318	Causes serious eye damage.
H302	Harmful if swallowed.
H315	Causes skin irritation.

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Supplementary Phrases

EUH208	Contains 2,2'-[[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol. May produce an allergic reaction.
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Precautionary statement(s) Prevention

P280	Wear protective gloves, protective clothing, eye protection and face protection.
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Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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2.3. Other hazards

Cumulative effects may result following exposure*.

Limited evidence of a carcinogenic effect*.

Possible respiratory and skin sensitizer*.

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1. Substances

See 'Composition on ingredients' in Section 3.2

3.2. Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1.69011-36-5 2.500-241-6 3.Not Available 4.Not Available	10-30	<u>tridecanol, branched, ethoxylated</u>	Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 1; H302, H315, H318, EUH066 [1]	Not Available	Not Available
1.5131-66-8 2.225-878-4 3.603-052-00-8 4.Not Available	1-5	<u>propylene glycol monobutyl ether - alpha isomer</u>	Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2; H315, H319 [2]	Not Available	Not Available
1.110-25-8 2.203-749-3 3.Not Available 4.Not Available	1-5	<u>oleoylsarcosine</u>	Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Acute Hazard Category 1; H332, H315, H318, H335, H400, EUH066 [1]	Not Available	Not Available
1.88477-37-6 2.279-501-3 3.Not Available 4.Not Available	<1	<u>2,2'-[[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol</u>	Acute Toxicity (Oral) Category 4, Serious Eye Damage/Eye Irritation Category 1, Sensitisation (Skin) Category 1, Carcinogenicity Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 3; H302, H318, H317, H351, H412 [1]	Not Available	Not Available

Legend: 1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties

SECTION 4 First aid measures

4.1. Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▶ Transport to hospital, or doctor.

Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor.
Ingestion	<ul style="list-style-type: none"> ▶ For advice, contact a Poisons Information Centre or a doctor at once. ▶ Urgent hospital treatment is likely to be needed. ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Transport to hospital or doctor without delay.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

4.3. Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.
- ▶ **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

- ▶ Water spray or fog.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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5.3. Advice for firefighters

Fire Fighting	▶ Alert Fire Brigade and tell them location and nature of hazard.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Combustible. Combustion products include: <ul style="list-style-type: none"> , carbon dioxide (CO2) , other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▶ Remove all ignition sources.
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Major Spills	Environmental hazard - contain spillage. Moderate hazard.
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6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**7.1. Precautions for safe handling**

Safe handling	<ul style="list-style-type: none"> Avoid all personal contact, including inhalation. DO NOT allow clothing wet with material to stay in contact with skin
Fire and explosion protection	See section 5
Other information	<ul style="list-style-type: none"> Store in original containers.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> Metal can or drum Packaging as recommended by manufacturer.
Storage incompatibility	<ul style="list-style-type: none"> Avoid reaction with oxidising agents
Hazard categories in accordance with Regulation (EC) No 1272/2008	Not Available
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	Not Available

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection**8.1. Control parameters**

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
tridecanol, branched, ethoxylated	Dermal 2 080 mg/kg bw/day (Systemic, Chronic) Inhalation 294 mg/m ³ (Systemic, Chronic) Dermal 1 250 mg/kg bw/day (Systemic, Chronic) * Inhalation 87 mg/m ³ (Systemic, Chronic) * Oral 25 mg/kg bw/day (Systemic, Chronic) *	0.074 mg/L (Water (Fresh)) 0.007 mg/L (Water - Intermittent release) 0.015 mg/L (Water (Marine)) 0.604 mg/kg sediment dw (Sediment (Fresh Water)) 0.06 mg/kg sediment dw (Sediment (Marine)) 0.1 mg/kg soil dw (Soil) 1.4 mg/L (STP)
propylene glycol monobutyl ether - alpha isomer	Dermal 52 mg/kg bw/day (Systemic, Chronic) Inhalation 147 mg/m ³ (Systemic, Chronic) Dermal 50 % in mixture (weight basis) (Local, Chronic) Dermal 50 % in mixture (weight basis) (Local, Acute) Dermal 22 mg/kg bw/day (Systemic, Chronic) * Inhalation 43 mg/m ³ (Systemic, Chronic) * Oral 12.5 mg/kg bw/day (Systemic, Chronic) * Dermal 50 % in mixture (weight basis) (Local, Chronic) * Dermal 50 % in mixture (weight basis) (Local, Acute) *	0.525 mg/L (Water (Fresh)) 0.052 mg/L (Water - Intermittent release) 5.25 mg/L (Water (Marine)) 2.36 mg/kg sediment dw (Sediment (Fresh Water)) 0.236 mg/kg sediment dw (Sediment (Marine)) 0.16 mg/kg soil dw (Soil) 10 mg/L (STP)
oleoilsarcosine	Dermal 20 mg/kg bw/day (Systemic, Chronic) Inhalation 0.8 mg/m ³ (Systemic, Chronic) Dermal 10 mg/kg bw/day (Systemic, Chronic) * Inhalation 0.4 mg/m ³ (Systemic, Chronic) * Oral 10 mg/kg bw/day (Systemic, Chronic) *	Not Available
2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol	Dermal 0.4 mg/kg bw/day (Systemic, Chronic) Inhalation 1.3 mg/m ³ (Systemic, Chronic) Inhalation 8.8 mg/m ³ (Systemic, Acute) Dermal 0.2 mg/kg bw/day (Systemic, Chronic) * Inhalation 0.3 mg/m ³ (Systemic, Chronic) * Oral 0.2 mg/kg bw/day (Systemic, Chronic) * Inhalation 2.2 mg/m ³ (Systemic, Acute) *	Not Available

* Values for General Population

Occupational Exposure Limits (OEL)**INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Not Applicable

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3

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Ingredient	TEEL-1	TEEL-2	TEEL-3
ZOK 27	Not Available	Not Available	Not Available


Ingredient	Original IDLH	Revised IDLH
tridecanol, branched, ethoxylated	Not Available	Not Available
propylene glycol monobutyl ether - alpha isomer	Not Available	Not Available
oleoysarcosine	Not Available	Not Available
2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
tridecanol, branched, ethoxylated	E	≤ 0.1 ppm
propylene glycol monobutyl ether - alpha isomer	E	≤ 0.1 ppm
oleoysarcosine	E	≤ 0.1 ppm
2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol	E	≤ 0.1 ppm

Notes: Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
8.2.2. Individual protection measures, such as personal protective equipment	
Eye and face protection	▶ Chemical goggles.
Skin protection	See Hand protection below
Hands/feet protection	▶ Wear chemical protective gloves, e.g. PVC. ▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. NOTE: ▶ The material may produce skin sensitisation in predisposed individuals. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.
Body protection	See Other protection below
Other protection	▶ Overalls.

Respiratory protection

Type A-P Filter of sufficient capacity.

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Colourless		
Physical state	Liquid	Relative density (Water = 1)	1.01
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	7.2-7.5	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	10.44
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	>100	Taste	Not Available

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Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	41.2
Nanoform Solubility	Not Available	Nanoform Particle Characteristics	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. Chemical stability	► Unstable in the presence of incompatible materials.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects following inhalation (as classified by EC Directives using animal models). Inhalation of vapours may cause drowsiness and dizziness.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Non-ionic surfactants may produce localised irritation of the oral or gastrointestinal lining and induce vomiting and mild diarrhoea.
Skin Contact	The material can produce chemical burns following direct contact with the skin. Non-ionic surfactants cause less irritation than other surfactants as they have less ability to denature protein in the skin. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. This material can cause inflammation of the skin on contact in some persons.
Eye	The material can produce chemical burns to the eye following direct contact. If applied to the eyes, this material causes severe eye damage. Non-ionic surfactants can cause numbing of the cornea, which masks discomfort normally caused by other agents and leads to corneal injury.
Chronic	There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation.

	ZOK 27	TOXICITY	IRRITATION
			Not Available
tridecanol, branched, ethoxylated		TOXICITY	IRRITATION
		dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): irritant *
		Oral (Rat) LD50: 1080 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
			Skin (rabbit): non-irritating *
propylene glycol monobutyl ether - alpha isomer		TOXICITY	IRRITATION
		dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 15 mg SEVERE
		Oral (Rat) LD50: >2000 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
			Skin (rabbit): 500 mg OPEN - mild
oleoilsarcosine		TOXICITY	IRRITATION
		Oral (Rat) LD50: >5000 mg/kg ^[2]	Not Available

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2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol	TOXICITY	IRRITATION
	Oral (Rat) LD50: 1472 mg/kg ^[2]	Eye (rabbit): SEVERE *
		Skin (rabbit): non-irritating *

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

ZOK 27	Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids.
TRIDECANOL, BRANCHED, ETHOXYLATED	* [BASF Canada]
PROPYLENE GLYCOL MONOBUTYL ETHER - ALPHA ISOMER	For propylene glycol ethers (PGEs): Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA) and tripropylene glycol methyl ether (TPM). Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series.
OLEOYLSARCOSINE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. The amino acids alkyl amides are most likely to dissociate into amino acids and fatty acids in the presence of water. For sarcosine: Motor impairment and respiratory issues have been observed in rats at 10mg/kg. Toxicological data is available and well documented for representative toluene, xylene and cumene sulfonates (including sodium, potassium, ammonium and calcium salts).
2,2'-[[(5-METHYL-1H-BENZOTRIAZOLYL)METHYL]IMINO]BISETHANOL	Sensitising in guinea pig skin assay. * Ciba Speciality Chemicals No significant acute toxicological data identified in literature search.
ZOK 27 & 2,2'-[[(5-METHYL-1H-BENZOTRIAZOLYL)METHYL]IMINO]BISETHANOL	The following information refers to contact allergens as a group and may not be specific to this product.
ZOK 27 & TRIDECANOL, BRANCHED, ETHOXYLATED	Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer.

Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
	ZOK 27	Not Available	Not Available	Not Available	Not Available
tridecanol, branched, ethoxylated	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	48h	Crustacea	1-10mg/l	Not Available
	LC50	96h	Fish	2.3mg/l	Not Available
	EC50	72h	Algae or other aquatic plants	1-10mg/l	Not Available
propylene glycol monobutyl ether - alpha isomer	EC50	48h	Crustacea	1-10mg/l	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC0(ECx)	48h	Crustacea	>100mg/l	2
	LC50	96h	Fish	>560<1000mg/l	2
	EC50	72h	Algae or other aquatic plants	519mg/l	2
EC50	96h	Algae or other aquatic plants	525mg/l	2	
EC50	48h	Crustacea	>100mg/l	2	

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oleoysarcosine	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>0.43mg/l	2
	EC50	48h	Crustacea	0.43mg/l	2
	NOEC(ECx)	504h	Crustacea	0.102mg/l	2

2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	134mg/l	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark.
For Surfactants: Kow cannot be easily determined due to hydrophilic/hydrophobic properties of the molecules in surfactants.
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
propylene glycol monobutyl ether - alpha isomer	LOW	LOW
oleoysarcosine	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
propylene glycol monobutyl ether - alpha isomer	LOW (LogKOW = 0.9842)
oleoysarcosine	HIGH (LogKOW = 6.8312)

12.4. Mobility in soil

Ingredient	Mobility
propylene glycol monobutyl ether - alpha isomer	HIGH (KOC = 1.289)
oleoysarcosine	LOW (KOC = 17090)

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT	✗	✗	✗
vPvB	✗	✗	✗
PBT Criteria fulfilled?			No
vPvB			No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ Recycle wherever possible or consult manufacturer for recycling options.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

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Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number or ID number	Not Applicable	
14.2. UN proper shipping name	Not Applicable	
14.3. Transport hazard class(es)	Class	Not Applicable
	Subsidiary risk	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Hazard identification (Kemler)	Not Applicable
	Classification code	Not Applicable
	Hazard Label	Not Applicable
	Special provisions	Not Applicable
	Limited quantity	Not Applicable
	Tunnel Restriction Code	Not Applicable

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable	
14.2. UN proper shipping name	Not Applicable	
14.3. Transport hazard class(es)	ICAO/IATA Class	Not Applicable
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	Not Applicable
	Cargo Only Packing Instructions	Not Applicable
	Cargo Only Maximum Qty / Pack	Not Applicable
	Passenger and Cargo Packing Instructions	Not Applicable
	Passenger and Cargo Maximum Qty / Pack	Not Applicable
	Passenger and Cargo Limited Quantity Packing Instructions	Not Applicable
	Passenger and Cargo Limited Maximum Qty / Pack	Not Applicable

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable	
14.2. UN proper shipping name	Not Applicable	
14.3. Transport hazard class(es)	IMDG Class	Not Applicable
	IMDG Subrisk	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	EMS Number	Not Applicable
	Special provisions	Not Applicable
	Limited Quantities	Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable	
14.2. UN proper shipping name	Not Applicable	
14.3. Transport hazard class(es)	Not Applicable	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Classification code	Not Applicable
	Special provisions	Not Applicable
	Limited quantity	Not Applicable

Equipment required	Not Applicable
Fire cones number	Not Applicable

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
tridecanol, branched, ethoxylated	Not Available
propylene glycol monobutyl ether - alpha isomer	Not Available
oleoysarcosine	Not Available
2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
tridecanol, branched, ethoxylated	Not Available
propylene glycol monobutyl ether - alpha isomer	Not Available
oleoysarcosine	Not Available
2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol	Not Available

SECTION 15 Regulatory information

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

tridecanol, branched, ethoxylated is found on the following regulatory lists

Not Applicable

propylene glycol monobutyl ether - alpha isomer is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)

oleoysarcosine is found on the following regulatory lists

Not Applicable

2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol is found on the following regulatory lists

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	Not Available

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (tridecanol, branched, ethoxylated; propylene glycol monobutyl ether - alpha isomer; oleoysarcosine; 2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (tridecanol, branched, ethoxylated; 2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol)
Vietnam - NCI	Yes
Russia - FBEPH	No (oleoysarcosine; 2,2'-[[(5-methyl-1H-benzotriazolyl)methyl]imino]bisethanol)

National Inventory	Status
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	11/04/2023
Initial Date	11/04/2023

Full text Risk and Hazard codes

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average
PC – STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Serious Eye Damage/Eye Irritation Category 1, H318	Calculation method
Acute Toxicity (Oral) Category 4, H302	On basis of test data
Skin Corrosion/Irritation Category 2, H315	Calculation method
, EUH208	Calculation method

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