SAFETY DATA SHEET

KOBAN™ T

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	22.11.2023	50000727	Date of first issue: 22.11.2023

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

1.1 Product identifier

Product name KOBAN™ T

Other means of identification

Product code 50000727

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

Use of the Substance/Mixture : Herbicide

Recommended restrictions on use : Use as recommended by the label.

1.3 Details of the supplier of the safety data sheet

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Supplier Address

FMC Chemicals (Pty) Ltd
Company Registration No.: 1988/001451/07
West End Office Park, Building C
Cnr. West Ave & Hall Street
Centurion
0014
South Africa

E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone

For leak, fire, spill or accident emergencies, call:
South Africa: 080-001-4676 (CHEMTREC)

Medical emergency:
For any emergency or poisoning contact: Griffon Poison Information Centre (24 hrs) - +27-(0)-82-446-8946

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 H302: Harmful if swallowed.

Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Disposal:

P501 Dispose of contents/container as hazardous waste in accordance with local regulations.

Hazardous ingredients which must be listed on the label:
pethoxamide (ISO)
terbuthylazine (ISO)
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified

ethanediol

Additional Labeling

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH208 Contains pethoxamide (ISO), 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
pethoxamide (ISO)	106700-29-2 616-145-00-3	Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 25 - < 30
terbuthylazine (ISO)	5915-41-3 227-637-9 613-323-00-2	Acute Tox. 4; H302 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 10 - < 20
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5 265-198-5 649-424-00-3	Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 10 - < 20
ethanediol	107-21-1	Acute Tox. 4; H302	>= 1 - < 10

	203-473-3 603-027-00-1	STOT RE 2; H373 (Kidney)	
calcium dodecylbenzenesulphonate	26264-06-2 247-557-8	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 4; H413	>= 1 - < 2.5
Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-	99734-09-5	Aquatic Chronic 3; H412	>= 1 - < 2.5
2-ethylhexan-1-ol	104-76-7 203-234-3	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system)	>= 1 - < 10
Ethoxylated branched C9-11, C10-rich alcohols	78330-20-8	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 1 - < 3
naphthalene	91-20-3 202-049-5 601-052-00-2	Flam. Sol. 2; H228 Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0.1 - < 0.25
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 ——————— M-Factor (Acute aquatic toxicity): 10	>= 0.0025 - < 0.025

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

Protection of first-aiders	:	Avoid inhalation, ingestion and contact with skin and eyes.
If inhaled	:	Remove to fresh air. If unconscious, place in recovery position and seek medical advice. If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
In case of skin contact	:	If on clothes, remove clothes. If on skin, rinse well with water. Wash off with soap and plenty of water. Get medical attention immediately if irritation develops and persists.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Do NOT induce vomiting. Keep respiratory tract clear. Rinse mouth with water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Primarily irritation After ingestion, only non-specific symptoms were seen in animal tests on similar products, such as decreased activity.
Risks	:	Harmful if swallowed. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure. Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically. Immediate medical attention is required in case of ingestion.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing	:	High volume water jet

media

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Fire may produce irritating, corrosive and/or toxic gases. Hydrogen chloride Hydrogen cyanide Nitrogen oxides (NOx) Carbon oxides Sulfur oxides Chlorinated compounds

5.3 Advice for firefighters

Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. If it can be safely done, stop the leak. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Immediately evacuate personnel to safe areas. Ensure adequate ventilation. Never return spills in original containers for re-use. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene.

6.2 Environmental precautions

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Neutralize with chalk, alkali solution or ammonia. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage conditions	:	The product is stable under normal conditions of warehouse storage. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading “POISON” is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.
Advice on common storage	:	Do not store near acids.
Further information on storage stability	:	Minimum storage temperature > 5°C, recommended >15°C No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s)	:	Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
ethanediol	107-21-1	OEL-RL (vapour fraction)	50 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
		OEL- RL STEL/C (aerosol only)	20 mg/m3	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
		OEL- RL STEL/C (vapour fraction)	100 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
		STEL	40 ppm 104 mg/m3	2000/39/EC
		TWA	20 ppm 52 mg/m3	2000/39/EC
2-ethylhexan-1-ol	104-76-7	TWA	1 ppm 5.4 mg/m3	2017/164/EU
naphthalene	91-20-3	OEL-RL	20 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents, denotes carcino-genicity, which is based on GHS categorisation, including category 1A, 1B			
		TWA	10 ppm 50 mg/m3	91/322/EEC

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Routes of exposure	Potential health effects	Value
pethoxamide (ISO)			Systemic effects	0.02 mg/kg
ethanediol	Workers	Inhalation	Long-term local effects	35 mg/m3
	Workers	Dermal	Long-term systemic effects	106 mg/kg
	Consumers	Inhalation	Long-term local effects	7 mg/m3
	Consumers	Dermal	Long-term systemic effects	53 mg/kg
2-ethylhexan-1-ol	Workers	Inhalation	Long-term systemic effects	12.8 mg/m3
	Workers	Dermal	Long-term systemic effects	23 mg/kg
	Consumers	Inhalation	Long-term systemic effects	2.3 mg/m3
	Consumers	Dermal	Long-term systemic effects	11.4 mg/kg
	Consumers	Oral	Long-term systemic	1.1 mg/kg

			effects	
naphthalene	Workers	Inhalation	Long-term systemic effects	25 mg/m3
	Workers	Inhalation	Long-term local effects	25 mg/m3
	Workers	Dermal	Long-term systemic effects	3.57 mg/kg bw/day
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m3
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
pethoxamide (ISO)		0.29 µg/l
ethanediol	Fresh water	10 mg/l
	Sea water	1 mg/l
	Sewage treatment plant	199.5 mg/l
	Fresh water sediment	37 mg/kg dry weight (d.w.)
	Sea sediment	3.7 mg/kg dry weight (d.w.)
	Soil	1.53 mg/kg dry weight (d.w.)
2-ethylhexan-1-ol	Fresh water	0.017 mg/l
	Intermittent use/release	0.17 mg/l
	Sea water	0.0017 mg/l
	Sewage treatment plant	10 mg/kg dry weight (d.w.)
	Fresh water sediment	0.284 mg/kg dry weight (d.w.)
naphthalene	Fresh water	0.0024 mg/l
	Intermittent use/release	0.020 mg/l
	Sea water	0.0024 mg/l
	Sewage treatment plant	2.9 mg/l
	Fresh water sediment	0.0672 mg/kg dry weight (d.w.)
	Sea sediment	0.0672 mg/kg dry weight (d.w.)
	Soil	0.0533 mg/kg dry weight (d.w.)
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Sea water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/l
	Sea sediment	0.00499 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Hand protection		
Material	:	Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	:	In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Protective measures	:	Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Ensure that eye flushing systems and safety showers are located close to the working place. Wear suitable protective equipment. When using do not eat, drink or smoke. In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Color	:	light brown, opaque
Odor	:	aromatic, hydrocarbon-like
Odor Threshold	:	No data available
pH	:	5.02 Concentration: 1 % In a 1% aqueous dispersion 3.93 (undiluted)
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	Not available for this mixture.
Flash point	:	110 °C

		Method: Seta closed cup
Evaporation rate	:	Not available for this mixture.
Upper explosion limit / Upper flammability limit	:	Not available for this mixture.
Lower explosion limit / Lower flammability limit	:	Not available for this mixture.
Vapor pressure	:	Not available for this mixture.
Relative vapor density	:	No data available
Relative density	:	1.075 (20 °C)
Density	:	No data available
Solubility(ies)		
Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	Not available for this mixture.
Decomposition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	132 - 197 mPa.s (20 °C) Method: OECD Test Guideline 114
Viscosity, kinematic	:	Not classified due to inconclusive data.
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

9.2 Other information

Flammability (liquids)	:	ignitable, Based on available information, the classification criteria for flammability hazard are not met.
Particle size	:	Not applicable
Particle Size Distribution	:	Not applicable
Self-ignition	:	481 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.
Protect from frost, heat and sunlight.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers.

10.6 Hazardous decomposition products

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : LD50 (Rat): > 300 - 2,000 mg/kg
Method: OECD Test Guideline 420
Remarks: Based on data from a similar product.

Acute inhalation toxicity : LC50 (Rat): > 4.95 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from a similar product.

Components:

pethoxamide (ISO):

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 425
Assessment: The component/mixture is minimally toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 5.33 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Remarks: no mortality

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg
Method: OECD Test Guideline 402
Remarks: no mortality

terbuthylazine (ISO):

Acute oral toxicity : LD50 (Rat): 1,000 - 1,590 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.688 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

ethanediol:

Acute oral toxicity : Acute toxicity estimate: 500.0 mg/kg
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : LC0 (Rat, male and female): > 2.5 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Remarks: no mortality

Acute dermal toxicity : LD50 (Mouse, male and female): > 3,500 mg/kg

calcium dodecylbenzenesulphonate:

Acute oral toxicity : LD50 (Rat, male and female): 1,300 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: Not classified

Acute dermal toxicity : LD50 (Rat, male and female): > 2000 milligram per kilogram
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Remarks: Based on data from similar materials

Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

2-ethylhexan-1-ol:

Acute oral toxicity : LD50 (Rat, male): 2,047 mg/kg

Acute inhalation toxicity : LC50 (Rat): 4.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 3,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Ethoxylated branched C9-11, C10-rich alcohols:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

naphthalene:

Acute oral toxicity : LD50 (Mouse, female): 710 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat, male and female): > 0.4 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 16,000 mg/kg
Method: OECD Test Guideline 402

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : Acute toxicity estimate: 500.0 mg/kg
Method: Converted acute toxicity point estimate

LD50 (Rat, male and female): 490 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Product:

Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Remarks	:	Minimal effects that do not meet the threshold for classification.
Assessment	:	Repeated exposure may cause skin dryness or cracking.

Components:

pethoxamide (ISO):

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OPPTS 870.2500
Result	:	No skin irritation

terbuthylazine (ISO):

Result	:	No skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species	:	Rabbit
Assessment	:	Repeated exposure may cause skin dryness or cracking.
Result	:	No skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on data from similar materials

ethanediol:

Species	:	Rabbit
Result	:	No skin irritation

calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

2-ethylhexan-1-ol:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Ethoxylated branched C9-11, C10-rich alcohols:

Species	:	Rabbit
Exposure time	:	4 h
Assessment	:	No skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

naphthalene:

Species	:	Rabbit
Result	:	No skin irritation

1,2-benzisothiazol-3(2H)-one:

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Method	:	OECD Test Guideline 405
Result	:	Eye irritation
Remarks	:	Based on data from a similar product.

Components:

pethoxamide (ISO):

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	US EPA Test Guideline OPPTS 870.2400
Result	:	No eye irritation

terbuthylazine (ISO):

Result	:	No eye irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species	:	Rabbit
Assessment	:	No eye irritation
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on data from similar materials

ethanediol:

Species : Rabbit
Result : No eye irritation

calcium dodecylbenzenesulphonate:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye
Remarks : Based on data from similar materials

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

2-ethylhexan-1-ol:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 21 days

Ethoxylated branched C9-11, C10-rich alcohols:

Species : Rabbit
Method : Draize Test
Result : Irreversible effects on the eye

naphthalene:

Species : Rabbit
Result : No eye irritation

1,2-benzisothiazol-3(2H)-one:

Species : Bovine cornea
Method : OECD Test Guideline 437
Result : No eye irritation

Species : Rabbit
Method : EPA OPP 81-4
Result : Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from a similar product.

Components:

pethoxamide (ISO):

Routes of exposure	:	Dermal
Species	:	Guinea pig
Method	:	US EPA Test Guideline OPPTS 870.2600
Result	:	May cause sensitization by skin contact.
Assessment	:	Harmful if swallowed. May cause an allergic skin reaction.

terbuthylazine (ISO):

Assessment	:	Not a skin sensitizer.
Remarks	:	Minimal effects that do not meet the threshold for classification.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Test Type	:	Maximization Test
Species	:	Guinea pig
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

ethanediol:

Test Type	:	Maximization Test
Species	:	Guinea pig
Result	:	Does not cause skin sensitization.

calcium dodecylbenzenesulphonate:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

Ethoxylated branched C9-11, C10-rich alcohols:

Result	:	Does not cause skin sensitization.

naphthalene:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.

1,2-benzisothiazol-3(2H)-one:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitization by skin contact.

Species	:	Guinea pig
Method	:	FIFRA 81.06
Result	:	May cause sensitization by skin contact.

Germ cell mutagenicity

Not classified based on available information.

Components:

pethoxamide (ISO):

Genotoxicity in vitro	:	Test Type: Ames test Method: OECD Test Guideline 471 Result: negative Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Result: negative Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Metabolic activation: with and without metabolic activation Result: positive
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Result: negative Test Type: In Vivo Rat Liver DNA Repair Test Species: Rat Application Route: Oral Result: negative

terbuthylazine (ISO):

Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Bone marrow chromosome aberration. Species: Rat Application Route: inhalation (vapor) Result: negative

ethanediol:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OPPTS 870.5100
Result: negative

Genotoxicity in vivo : Test Type: dominant lethal test
Species: Rat
Application Route: Oral
Result: negative

calcium dodecylbenzenesulphonate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Rat (male and female)
Application Route: Oral
Exposure time: 90 d
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Remarks: No data available

2-ethylhexan-1-ol:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Ethoxylated branched C9-11, C10-rich alcohols:

Genotoxicity in vitro : Test Type: reverse mutation assay
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity- Assessment : In vivo tests did not show mutagenic effects

naphthalene:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal injection Result: negative

1,2-benzisothiazol-3(2H)-one:

Genotoxicity in vitro	:	Test Type: gene mutation test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Ames test Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: positive
Genotoxicity in vivo	:	Test Type: unscheduled DNA synthesis assay Species: Rat (male) Cell type: Liver cells Application Route: Ingestion Exposure time: 4 h Method: OECD Test Guideline 486 Result: negative Test Type: Micronucleus test Species: Mouse Application Route: Oral Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Not classified based on available information.

Components:

pethoxamide (ISO):

Species	:	Rat
Application Route	:	Oral
Exposure time	:	2 Years
LOAEL	:	17 mg/kg bw/day
Result	:	negative
Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

terbuthylazine (ISO):

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species	:	Rat, male and female
Application Route	:	inhalation (vapor)
Exposure time	:	12 month(s)
NOAEC	:	1.8 mg/l
Result	:	negative
Remarks	:	Based on data from similar materials
Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

ethanediol:

Species	:	Mouse
Application Route	:	Oral
Exposure time	:	24 month(s)
Result	:	negative

calcium dodecylbenzenesulphonate:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	720 d
NOAEL	:	250 mg/kg body weight
Result	:	negative
Remarks	:	Based on data from similar materials
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

2-ethylhexan-1-ol:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	24 month(s)
Result	:	negative

naphthalene:

Species	:	Rat
Application Route	:	Inhalation
Exposure time	:	2 Years
Result	:	positive
Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified based on available information.

Components:

pethoxamide (ISO):

Effects on fertility	:	Test Type: Two-generation study Species: Rat General Toxicity Parent: NOAEL: 14 mg/kg bw/day Fertility: NOAEL: 112 mg/kg bw/day Result: negative
Effects on fetal development	:	Test Type: Developmental toxicity study Species: Rat, female Application Route: Oral General Toxicity Maternal: NOAEL: 75 mg/kg bw/day Developmental Toxicity: NOAEL: 75 mg/kg bw/day Symptoms: Maternal effects. Result: negative Test Type: Developmental toxicity study Species: Rabbit, female Application Route: Oral General Toxicity Maternal: NOAEL: 50 mg/kg bw/day Developmental Toxicity: NOEL: 50 mg/kg bw/day Symptoms: Maternal effects. Result: negative
Reproductive toxicity - Assessment	:	Animal testing showed no reproductive toxicity.

terbuthylazine (ISO):

Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

calcium dodecylbenzenesulphonate:

Effects on fertility	:	Test Type: Fertility/early embryonic development Species: Rat, male and female Application Route: Ingestion General Toxicity Parent: NOAEL: 400 mg/kg body weight Method: OECD Test Guideline 422 Result: negative
Effects on fetal development	:	Test Type: reproductive and developmental toxicity study Species: Rat Application Route: Ingestion General Toxicity Maternal: NOAEL: 300 mg/kg body weight Developmental Toxicity: NOAEL: 600 mg/kg body weight Method: OECD Test Guideline 422 Result: negative
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

2-ethylhexan-1-ol:

Effects on fetal development	:	Test Type: Embryo-fetal development

Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 414
Result: negative

Ethoxylated branched C9-11, C10-rich alcohols:

Effects on fertility : Species: Rat
Application Route: Dermal
General Toxicity Parent: NOEL: 250 mg/kg body weight
General Toxicity F1: NOEL: 250 mg/kg body weight

Effects on fetal development : Species: Rat
Application Route: Dermal
General Toxicity Maternal: NOEL: 250 mg/kg body weight
Teratogenicity: NOEL: 250 mg/kg body weight

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

naphthalene:

Effects on fertility : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Inhalation
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Oral
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

1,2-benzisothiazol-3(2H)-one:

Effects on fertility : Species: Rat, male
Application Route: Ingestion
General Toxicity Parent: NOAEL: 18.5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Fertility: NOAEL: 112 mg/kg bw/day
Symptoms: No effects on reproduction parameters.
Method: OPPTS 870.3800
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT-single exposure

Not classified based on available information.

Components:

pethoxamide (ISO):

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

2-ethylhexan-1-ol:

Assessment : May cause respiratory irritation.

Ethoxylated branched C9-11, C10-rich alcohols:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Product:

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

Components:

pethoxamide (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

terbuthylazine (ISO):

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

ethanediol:

Routes of exposure : Oral
Target Organs : Kidney
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Ethoxylated branched C9-11, C10-rich alcohols:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

1,2-benzisothiazol-3(2H)-one:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

pethoxamide (ISO):

Species : Rat
LOAEL : 36.2 mg/kg bw/day
Application Route : Oral - feed
Exposure time : 90 days

Method	:	OECD Test Guideline 408
Remarks	:	Effects are of limited toxicological significance.

terbuthylazine (ISO):

Species	:	Mouse
NOEL	:	2.97 mg/kg
Application Route	:	Oral
Exposure time	:	2 years

Species	:	Rat
NOEL	:	0.35 mg/kg
Application Route	:	Oral
Exposure time	:	2 years

Species	:	Dog
NOEL	:	0.4 mg/kg
Application Route	:	Oral
Exposure time	:	1 year

Species	:	Rat
NOAEL	:	2.1 mg/kg
Exposure time	:	90 d
Target Organs	:	No specific target organs noted

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species	:	Rat, male and female
NOAEC	:	0.9 - 1.8 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	12 months

ethanediol:

Species	:	Rat
NOAEL	:	150 mg/kg
Application Route	:	Oral
Exposure time	:	12 months

Species	:	Dog
NOAEL	:	> 2,200 - < 4,400 mg/kg
Application Route	:	Dermal
Exposure time	:	4 weeks
Method	:	OECD Test Guideline 410

calcium dodecylbenzenesulphonate:

Species	:	Rat, male and female
NOAEL	:	85 mg/kg
LOAEL	:	145 mg/kg
Application Route	:	Oral
Exposure time	:	9 Months
Remarks	:	Based on data from similar materials

Species	:	Rat, male
LOAEL	:	286 mg/kg

Application Route	:	Skin contact
Exposure time	:	15 Days
Remarks	:	Based on data from similar materials

Species	:	Rat, male and female
NOAEL	:	100 mg/kg bw/day
LOAEL	:	200 mg/kg bw/day
Application Route	:	Oral - gavage
Exposure time	:	28 - 54 days
Method	:	OECD Test Guideline 422
Remarks	:	Based on data from similar materials

2-ethylhexan-1-ol:

Species	:	Rat
	:	250 mg/kg
Application Route	:	Oral
Exposure time	:	13 weeks
Method	:	OECD Test Guideline 408

Ethoxylated branched C9-11, C10-rich alcohols:

Species	:	Rat
NOAEL	:	80 mg/kg
Application Route	:	Dermal
Exposure time	:	90 d

Species	:	Rat
NOAEL	:	150 mg/kg
Application Route	:	Oral
Exposure time	:	90 d

1,2-benzisothiazol-3(2H)-one:

Species	:	Rat, male and female
NOAEL	:	15 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 d
Method	:	OECD Test Guideline 407
Symptoms	:	Irritation

Species	:	Rat, male and female
NOAEL	:	69 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 d
Symptoms	:	Irritation, Reduced body weight

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

May be fatal if swallowed and enters airways.

Components:

pethoxamide (ISO):
No aspiration toxicity classification

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:
May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Skin contact : Symptoms: Repeated exposure may cause skin dryness or cracking.

Neurological effects

Components:

pethoxamide (ISO):
No neurotoxicity observed in animal studies.

Further information

Product:

Remarks : No data available

Components:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Remarks : Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4.59 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (Pseudokirchneriella subcapitata (green algae)): 38.9 mg/l Exposure time: 72 h

NOEC (Lemna gibba (duckweed)): 0.5 µg/l
Exposure time: 7 d

ErC50 (Lemna gibba (duckweed)): 33.3 µg/l
Exposure time: 7 d

Toxicity to terrestrial organisms : LD50: > 209 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity
Species: Apis mellifera (bees)

LD50: > 800 µg/bee
Exposure time: 48 h
End point: Acute contact toxicity
Species: Apis mellifera (bees)

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Components:

pethoxamide (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

NOEC (Oncorhynchus mykiss (rainbow trout)): 1.7 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

LC50 (Lepomis macrochirus (Bluegill sunfish)): 6.6 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 20 - 25 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

NOEC (Daphnia magna (Water flea)): 17 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 0.00195 mg/l
Exposure time: 72 h

EbC50 (Lemna minor (duckweed)): 0.0079 mg/l
Exposure time: 14 d
GLP: yes

ErC50 (Lemna minor (duckweed)): 0.018 mg/l
Exposure time: 14 d
GLP: yes

ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.004 mg/l
Exposure time: 120 h
Test Type: static test

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.0012 mg/l
Exposure time: 120 h
Test Type: static test

M-Factor (Acute aquatic toxicity) : 100

Toxicity to microorganisms : EC50 (Anabaena flos-aquae (cyanobacterium)): 9.4 mg/l
Exposure time: 96 h

Toxicity to fish (Chronic toxicity) : NOEC: 1.1 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 2.8 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 100

Toxicity to soil dwelling organisms : LC50: 527 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)

Method: OECD Test Guideline 216
Remarks: No significant adverse effect on Nitrogen mineralization.

Method: OECD Test Guideline 217
Remarks: No significant adverse effect on Carbon mineralization.

Toxicity to terrestrial organisms : LD50: 84.4 -120.5
End point: Acute oral toxicity
Species: Apis mellifera (bees)

LD50: > 200 µg/bee
End point: Acute contact toxicity
Species: Apis mellifera (bees)

LD50: ca. 1,500 - 2,100 mg/kg
Species: Colinus virginianus (Bobwhite quail)

Method: EPA OPP 71-1

terbuthylazine (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2.2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia): 69.3 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (algae)): 0.012 mg/l Exposure time: 72 h EC50 (Lemna gibba (gibbous duckweed)): 0.0128 mg/l Exposure time: 14 d EC50 (Microcystis aeruginosa (blue-green algae)): 0.102 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.09 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.019 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	LC50: > 141.7 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: 1,236 mg/kg Species: Colinus virginianus (Bobwhite quail) LD50: > 22.6 µg/bee End point: Acute oral toxicity Species: Apis mellifera (bees) LD50: > 32 µg/bee End point: Acute contact toxicity Species: Apis mellifera (bees)

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 1.4 mg/l Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3 mg/l Exposure time: 24 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	LL50 (Tetrahymena pyriformis): 677.9 mg/l Exposure time: 72 h Test Type: Growth inhibition
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EL50: 0.89 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

ethanediol:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 72,860 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	IC50 (Pseudokirchneriella subcapitata (green algae)): 10,940 mg/l Exposure time: 96 h
Toxicity to microorganisms	:	(activated sludge): > 1,995 mg/l Exposure time: 30 min Method: ISO 8192
Toxicity to fish (Chronic toxicity)	:	1,500 mg/l Exposure time: 28 d Species: Menidia peninsulae (tidewater silverside)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	33,911 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

calcium dodecylbenzenesulphonate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials LC50 (Pimephales promelas (fathead minnow)): 4.6 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.5 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials EC50 (Pseudokirchneriella subcapitata (green algae)): 65.4 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): 500 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1.65 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Remarks: Based on data from similar materials NOEC: 1.18 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Remarks: Based on data from similar materials
Toxicity to soil dwelling organisms	:	LC50: 1,000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
Toxicity to terrestrial organisms	:	LD50: 1,356 mg/kg Exposure time: 14 d Species: Colinus virginianus (Bobwhite quail) Method: OECD Test Guideline 223

Ecotoxicology Assessment

Chronic aquatic toxicity	:	May cause long lasting harmful effects to aquatic life.

Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): 21 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to microorganisms	:	Remarks: No data available

2-ethylhexan-1-ol:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 17.1 - 28.2 mg/l Exposure time: 96 h
Toxicity to daphnia and other	:	EC50 (Daphnia magna (Water flea)): 39 mg/l

aquatic invertebrates		Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC10 (Desmodesmus subspicatus (green algae)): 3.2 mg/l Exposure time: 72 h EC50 (Desmodesmus subspicatus (green algae)): 11.5 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Anabaena flos-aquae (cyanobacterium)): 16.6 mg/l Exposure time: 72 h

Ethoxylated branched C9-11, C10-rich alcohols:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 8.5 mg/l Exposure time: 96 h

naphthalene:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.16 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Skeletonema costatum (marine diatom)): 0.4 - 0.5 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	IC50 (Bacteria): 29 mg/l Exposure time: 24 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.37 mg/l Exposure time: 40 d Species: Oncorhynchus kisutch (coho salmon)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.59 mg/l Exposure time: 125 d Species: Daphnia pulex (Water flea)
M-Factor (Chronic aquatic toxicity)	:	1

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish	:	LC50 (Cyprinodon variegatus (sheepshead minnow)): 16.7 mg/l Exposure time: 96 h Test Type: static test LC50 (Oncorhynchus mykiss (rainbow trout)): 2.15 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.9 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.070 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): 24 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209 EC50 (activated sludge): 12.8 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

Components:

pethoxamide (ISO):

Biodegradability	:	Remarks: Not readily biodegradable.

terbuthylazine (ISO):

Biodegradability	:	Remarks: Not readily biodegradable.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 58.6 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: Based on data from similar materials

ethanediol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 10 d
Method: OECD Test Guideline 301A

calcium dodecylbenzenesulphonate:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301E

Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301

2-ethylhexan-1-ol:

Biodegradability : Result: Readily biodegradable.

Ethoxylated branched C9-11, C10-rich alcohols:

Biodegradability : Result: Readily biodegradable.

naphthalene:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 67 %
Exposure time: 12 d

1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: rapidly biodegradable
Method: OECD Test Guideline 301C

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Components:

pethoxamide (ISO):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 2.96 (20 °C)
pH: 5

terbuthylazine (ISO):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 3.4 (25 °C)

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Bioaccumulation : Remarks: The product/substance has a potential to bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.72
Method: QSAR

ethanediol:

Partition coefficient: n-octanol/water : log Pow: -1.36

calcium dodecylbenzenesulphonate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 70.79
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4.77 (25 °C)

Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-:

Partition coefficient: n-octanol/water : Remarks: No data available

2-ethylhexan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 2.9 (25 °C)

naphthalene:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 168

Partition coefficient: n-octanol/water : log Pow: 3.7

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Bioconcentration factor (BCF): 6.62
Method: OECD Test Guideline 305
Remarks: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Partition coefficient: n-octanol/water : log Pow: 0.7 (20 °C)
pH: 7

log Pow: 0.99 (20 °C)
pH: 5

12.4 Mobility in soil

Product:

Distribution among environmental compartments : Remarks: No data is available on the product itself.

Components:

pethoxamide (ISO):

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil :

terbuthylazine (ISO):

Distribution among environmental compartments : Remarks: immobile

Stability in soil :

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Distribution among environmental compartments : Remarks: Expected to partition to sediment and wastewater solids. Moderately volatile.

1,2-benzisothiazol-3(2H)-one:

Distribution among environmental compartments : Koc: 9.33 ml/g, log Koc: 0.97
Method: OECD Test Guideline 121
Remarks: Highly mobile in soils

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Do not re-use empty containers.
Packaging that is not properly emptied must be disposed of as the unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

UNRTDG : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

UNRTDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Pethoxamide, Terbuthylazine, ALKYL(C3-C6)BENZENES)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Pethoxamide, Terbuthylazine, ALKYL(C3-C6)BENZENES)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(Pethoxamide, Terbuthylazine, ALKYL(C3-C6)BENZENES)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
UNRTDG	9	
IMDG	9	
IATA	9	

14.4 Packing group

UNRTDG
Packing group : III
Labels : 9

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

UNRTDG

Environmentally hazardous	:	yes

IMDG

Marine pollutant	:	yes

IATA (Passenger)

Environmentally hazardous	:	yes

IATA (Cargo)

Environmentally hazardous	:	yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

The ingredients of this product are reported in the following inventories:

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. 2-CHLORO-N-(2-ETHOXYETHYL)-N-(2-METHYL-1-PHENYLPROP-1-ENYL)ACETAMIDE

terbuthylazine (ISO)

ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

15.2 Chemical Safety Assessment

SECTION 16: Other information

Full text of H-Statements

H228	:	Flammable solid.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H351	:	Suspected of causing cancer.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H373	:	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.
H413	:	May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Sol.	:	Flammable solids
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitization
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2017/164/EU	:	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
91/322/EEC	:	Europe. Commission Directive 91/322/EEC on establishing indicative limit values
ZA OEL	:	South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
2017/164/EU / TWA	:	Limit Value - eight hours
91/322/EEC / TWA	:	Limit Value - eight hours
ZA OEL / OEL-RL	:	Occupational Exposure Limit Restricted limit - 8- hour exposure or equivalent (12 hour shifts)
ZA OEL / OEL- RL STEL/C	:	Occupational Exposure Limit Restricted limit - Short term occupational exposure limits / ceiling limits

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information :

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H302	Based on product data or assessment
Eye Irrit. 2	H319	Based on product data or assessment
STOT RE 2	H373	Based on product data or assessment
Asp. Tox. 1	H304	Based on product data or assessment
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

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