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CVR No. DK 12 76 00 43

SAFETY DATA SHEET

Lisere T 487.5SE

Revision: Sections containing a revision or new information are marked with a ♣.

♣ SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. **Product identifier** ..... **Lisere T 487.5SE**
Contains terbuthylazine and ethylene glycol

1.2. **Relevant identified uses of the substance or mixture and uses advised against** ..... Can be used as herbicide only.

1.3. **Details of the supplier of the safety data sheet**

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1.4. **Emergency telephone number**
Medical emergencies:
Austria: +43 1 406 43 43
Belgium: +32 70 245 245
Bulgaria: +359 2 9154 409
Cyprus: 1401
Czech Republic: +420 224 919 293
+420 224 915 402
Denmark: +45 82 12 12 12
England and Wales: 111
Estonia: +372 7943500
Finland: +358 9 471 977
France: +33 (0) 1 45 42 59 59
Greece: 30 210 77 93 777
Hungary: +36 80 20 11 99
Ireland (Republic): +353 1 837 9964
Italy: +39 02 6610 1029
Latvia: +371 670 42 473
112
Lithuania: +370 523 62052
+370 687 53378
Luxembourg: +352 8002 5500
Malta: 112
Netherlands: +31 30 274 88 88
Norway: +47 22 591300
Poland: +48 22 619 66 54
+48 22 619 08 97
Portugal: 800 250 250 (in Portugal only)
+351 21 330 3284
Romania: +40 21318 3606
Scotland: +8454 24 24 24
Slovakia: +421 2 54 77 4 166
Slovenia: +386 41 650 500
South Africa: +27 83 123 3911 (Bateleur Emergency Response Co.)
Spain: +34 91 562 04 20
Sweden: +46 08-331231
112
Switzerland: 145
Turkey: 114
U.S.A. & Canada: +1 800 331-3148
All other countries: +1 651 632-6793 (Collect)

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For fire, leak, spill or other accident emergencies:

U.S.A.: +1 800 424-9300 (CHEMTREC – U.S.A.)
All other countries: +1 703 741-5970 (CHEMTREC – International)

SECTION 2: HAZARDS IDENTIFICATION

2.1. **Classification of the substance or mixture**

Acute oral toxicity: Category 4 (H302)
Eye irritation: Category 2 (H319)
Specific target organ toxicity – repeated exposure: Category 2 (H373)
Hazards to the aquatic environment, acute: Category 1 (H400)
chronic: Category 1 (H410)

WHO classification ..... Class II: Moderately hazardous

Health hazards ..... The product has irritating properties and is harmful by ingestion.

The ingredient terbuthylazine caused decreased body weight in laboratory animals at repeated exposure.

Environmental hazards ..... The product is very toxic to aquatic organisms.

2.2. **Label elements**

According to EU Reg. 1272/2008 as amended

Product identifier ..... Lisere T 487.5SE
Contains terbuthylazine and ethylene glycol

Hazard pictograms (GHS07, GHS08, GHS09)

Signal word ..... Warning

Hazard statements
H302 ..... Harmful if swallowed.
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.

Supplementary hazard statements
EUH066 ..... Repeated exposure may cause skin dryness and cracking.
EUH208 ..... Contains pethoxamid and 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 of use.

Precautionary statements
P261 ..... Do not breathe vapours.
P264 ..... Wash hands thoroughly after handling.
P280 ..... Wear protective gloves and eye protection.

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P301+P312 ..... IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P305+P351+P338 ..... IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 ..... Dispose of contents and container as hazardous waste.

2.3. **Other hazards** ..... None of the ingredients in the product meets the criteria for being PBT or vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances** ..... The product is a mixture, not a substance

3.2. **Mixtures** ..... See section 16 for full text of hazard statements.

Active ingredients

Pethoxamid ..... Content: 30% by weight
CAS name ..... Acetamide, 2-chloro-N-(2-ethoxyethyl)-N-(2-methyl-1-phenyl-1-prop-1-enyl)-
CAS no. 106700-29-2
IUPAC name ..... 2-Chloro-N-(2-ethoxyethyl)-N-(2-methyl-1-phenylprop-1-enyl)-acetamide
ISO name ..... Pethoxamid
EC no. (EINECS no.) ..... None
EU index no. 616-145-00-3
Molecular weight 295.80
Classification of the ingredient ..... Acute oral toxicity: Category 4 (H302)
Sensitisation – skin: Category 1A (H317)
Hazards to the aquatic environment, acute: Category 1 (H400)
chronic: Category 1 (H410)
M-factor 100

Terbuthylazine ..... Content: 18% by weight
CAS name ..... 1,3,5-Triazine-2,4-diamine, 6-chloro-N-(1,1-dimethylethyl)-N′-ethyl-
CAS no. 5915-41-3
IUPAC name ..... N^2-tert-Butyl-6-chloro-N^4-ethyl-1,3,5-triazine-2,4-diamine
ISO name ..... Terbuthylazine
EC no. (EINECS no.) 227-637-9
EU index no. ..... None
Molecular weight 229.71
Classification of the ingredient ..... Acute oral toxicity: Category 4 (H302)
Specific target organ toxicity – repeated exposure: Category 2 (H373)
Hazards to the aquatic environment,
acute: Category 1 (H400), M-factor 10
chronic: Category 1 (H410), M-factor 10

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Reportable ingredients	Content (% w/w)	CAS no.	EC no.	Classification
Hydrocarbons, C10-C13, aromatics, < 1% naphthalene Reg. no. 01-2119451097-39	16		922-153-0	Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411) EUH66
Ethylene glycol Reg. no. 01-2119456816-28	3	107-21-1	EINECS no.: 203-473-3	Acute Tox. 4 (H302)
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts Reg. no. 01-2119560592-37	2		932-231-6	Skin Irrit 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)
Poly(oxy-1,2-ethanediyl), α-[2,4,6-tris(1-phenylethyl)phenyl]-ω-hydroxy-	2	99734-09-5	None	Aquatic Chronic 3 (H412)
2-Ethylhexan-1-ol	1	104-76-7	EINECS no.: 203-234-3	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Alcohols, C9-11-iso-, C10-rich, ethoxylated	1	78330-20-8	None	Acute Tox. 4 (H302) Eye Dam. 1 (H318)
1,2-Benzisothiazol-3(2H)-one	max. 0.016	2634-33-5	EINECS no.: 220-120-9	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 1 (H400) Specific concentration limit for Skin Sens. 1A (H317): C ≥ 0.05 %

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation ..... 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.

Skin contact ..... Immediately remove contaminated clothing and footwear. Flush skin with water. Wash with water and soap. See physician if any symptom develops.

Eye contact ..... Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. See physician if irritation persists.

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Ingestion ..... Let the exposed person rinse mouth with water and let him/her drink several glasses of water or milk, but not induce vomiting. If vomiting does occur, let him/her rinse mouth and drink fluids again. Get medical attention immediately.

4.2. **Most important symptoms and effects, both acute and delayed** — Primarily irritation. After ingestion, only non-specific symptoms were seen in animal tests on similar products, such as decreased activity.

4.3. **Indication of any immediate medical attention and special treatment needed** — Immediate medical attention is required in case of ingestion.

It may be helpful to show this safety data sheet to physician.

Note to physician ..... A specific antidote against this substance is not known. Gastric lavage and/or administration of activated charcoal can be considered.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. **Extinguishing media** ..... Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.

5.2. **Special hazards arising from the substance or mixture** — The essential breakdown products are volatile, toxic, irritant and inflammable compounds such as nitrogen oxides, hydrogen chloride, carbon monoxide, carbon dioxide, sulphur dioxide and various chlorinated organic compounds.

5.3. **Advice for firefighters** ..... Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. **Personal precautions, protective equipment and emergency procedures** — It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 10 tonnes of the product or more):
1. use personal protection equipment; see section 8
2. call emergency telephone no.; see section 1
3. alert authorities.

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots.

Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area. Avoid and reduce mist formation as much as possible. Remove sources of ignition.

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6.2. **Environmental precautions** .....

Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

6.3. **Methods and materials for containment and cleaning up**

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).

Surface water drains should be covered if appropriate. Minor spills on the floor or other impervious surface should be absorbed onto an absorptive material such as universal binder, hydrated lime, Fuller's earth or other absorbent clays. Collect the contaminated absorbent in suitable containers. Clean area with much water and industrial detergent. Absorb wash liquid onto absorbent and transfer to suitable containers. The used containers should be properly closed and labelled.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

6.4. **Reference to other sections** .....

See subsection 8.2. for personal protection.
See section 13 for disposal.

SECTION 7: HANDLING AND STORAGE

7.1. **Precautions for safe handling** ....

In an industrial environment, it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8.

For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.

Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. After work, take off all work clothes and footwear. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after each use.

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Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

7.2. **Conditions for safe storage, including any incompatibilities**

The product is stable under normal conditions of warehouse storage. Protect from frost.

Keep 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.

7.3. **Specific end use(s)** .....

The product is a registered pesticide which may only be used for the applications it is registered for, in accordance with a label approved by the regulatory authorities.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters**

Personal exposure limits ..... To our knowledge, personal exposure limits have not been established for the active ingredients in this product.

Aromatic hydrocarbons ..... 100 ppm total hydrocarbon is recommended.

However, other personal exposure limits defined by local regulations may exist and must be observed.

Pethoxamid

DNEL, systemic ..... Not established
The EFSA has established an AOEL of 0.02 mg/kg bw/day

PNEC, aquatic environment ..... 0.29 µg/l

Terbuthylazine

DNEL, systemic ..... Not established
The EFSA has established an AOEL of 0.0032 mg/kg bw/day

PNEC, aquatic environment ..... 1.9 µg/l

Aromatic hydrocarbons

DNEL, dermal ..... 12.5 mg/kg bw/day
DNEL, inhalation ..... 151 mg/m^3
PNEC, aquatic environment ..... Not applicable

8.2. **Exposure controls** .....

When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the

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system. Consider the need to render equipment or piping systems non-hazardous before opening.

The precautions mentioned below are primarily meant for handling of the undiluted product and for preparing the spray solution, but can be recommended for spraying as well.

In cases of incidental high exposure, maximal personal protection equipment may be necessary, such as respirator, face mask, chemical resistant coveralls.

Respiratory protection — In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Protective gloves ..... — Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough time of these materials for this product are unknown. Generally, however, the use of protective gloves will give only partial protection against dermal exposure. Small tears in the gloves and cross-contamination can easily occur. It is recommended to limit the work to be done manually and to change the gloves regularly.

Eye protection ..... — Wear goggles, safety glasses or face shield. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.

Other skin protection — Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Information on basic physical and chemical properties**

Physical state	Liquid
Colour	Light brown, opaque
Odour	Of aromatic hydrocarbons
Melting point/freezing point	Not determined
Boiling point or initial boiling point and boiling range	Not determined **Aromatic hydrocarbons** : 200 - 310°C
Flammability	Ignitable
Lower and upper explosive limit ..	**Aromatic hydrocarbons** : 0.6 - 7.0 vol% (≈ 0.6 - 7.0 kPa)
Flash point	110°C (Setaflash closed cup)

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Auto-ignition temperature	481°C	
Decomposition temperature	Not determined	
pH	Undiluted: 3.93	
	1% dilution in water: 5.02	
Kinematic viscosity	99.5 mPa.s at 19°C, 90.7 mPa.s at 41°C	
Solubility	The product is dispersible in water.	
	Solubility of **pethoxamid** at 20°C in:	
	n-heptane	117 g/kg
	ethyl acetate	> 250 g/kg
	water	400 mg/l
	Solubility of **terbuthylazine** at 25°C in:	
	hexane	0.41 g/l
	ethyl acetate	35 g/l
	water	9.0 mg/l
Partition coefficient n-octanol/water (log value)	**Pethoxamid**	: log K_{ow} = 2.96 (at pH 5 and 20°C)
	Terbuthylazine	: log K_{ow} = 3.4 at 25°C
	Aromatic hydrocarbons	: some of the main components have log K_{ow} = 4.0 - 4.4 at 25°C by model calculation
Vapour pressure	**Pethoxamid**	: 3.5 x 10^{-4} Pa at 25°C
	Terbuthylazine	: 9.0 x 10^{-5} Pa at 25°C
	Aromatic hydrocarbons	: < 0.1 kPa at 25°C
Density and/or relative density	Relative density: 1.075 at 20°C	
Relative vapour density	(Air = 1)	
	Aromatic hydrocarbons	: > 1
Particle characteristics	Not applicable (liquid)	

9.2. **Other information**

Evaporation rate	(Butyl acetate = 1)
	Aromatic hydrocarbons : < 0.01

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity** ..... To our knowledge, the product has no special reactivities.

10.2. **Chemical stability** ..... The product is stable during normal handling and storage at ambient temperatures.

10.3. **Possibility of hazardous reactions** None known.

10.4. **Conditions to avoid** ..... Heating of the product will evolve harmful and irritant vapours.

10.5. **Incompatible materials** ..... None known.

10.6. **Hazardous decomposition products** See subsection 5.2.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. **Information on hazard classes as defined in Regulation (EC) No 1272/2008** * = Based on available data, the classification criteria are not met.

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Product

Acute toxicity		The product is harmful by ingestion. The acute toxicity, as measured on a similar product, is:
Route(s) of entry	- ingestion	LD_{50}, oral, rat: 300 - 2000 mg/kg (method OECD 420)
	- skin	LD_{50}, dermal, rat: > 2000 mg/kg (method OECD 402) *
	- inhalation	LC_{50}, inhalation, rat: > 4.95 mg/l/4 h (method OECD 403) *
Skin corrosion/irritation		May be moderately irritating to skin (method OECD 404). * Can cause skin dryness.
Serious eye damage/irritation		Irritating to eyes (measured on a similar product, method OECD 405).
Respiratory or skin sensitisation ...		Not a skin sensitizer (measured on a similar product, method OECD 406). *
Germ cell mutagenicity		The product contains no ingredients known to be mutagenic. *
Carcinogenicity		The product contains no ingredients known to be carcinogenic. *
Reproductive toxicity		The product contains no ingredients found to have adverse effects on reproduction. *
STOT – single exposure		To our knowledge, no specific effects after single exposure have been observed. *
STOT – repeated exposure		The following is found for the active ingredient **pethoxamid**: Target organ: liver LOAEL: 500 ppm (36.2 mg/kg bw/day) in a 90-day rat study (method OECD 408). At this dose level, decreased body weight and phenobarbitone-type enzyme induction were seen. * For **terbuthylazine** the following was found: Target organ: no specific target organ LOAEL: 100 ppm (10 mg/kg bw/day) in a 90-day rat study. At this dose level, decreased body weight gain was observed (method OECD 408).
Aspiration hazard		The product does not present an aspiration hazard. *

Pethoxamid

Toxicokinetics, metabolism and distribution		Pethoxamid is rapidly absorbed and with distribution mainky to intestinal tract, liver and kidneys. It is extensively metabolised and excreted within 96 hours mainly by urine. There is no evidence for accumulation.
Acute toxicity		Pethoxamid is harmful by ingestion. The acute toxicity is measured as:
Route(s) of entry	- ingestion	LD_{50}, oral, rat: 983 mg/kg (method OECD 401)

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	- skin	LD_{50}, dermal, rat: > 2000 mg/kg (method OECD 402) *
	- inhalation	LC_{50}, inhalation, rat: > 4.16 mg/l/4 h (method OECD 403) *
Skin corrosion/irritation		Slightly irritating to skin (method OECD 404). *
Serious eye damage/irritation		Slightly irritating to eyes (method OECD 405). *
Respiratory or skin sensitisation ...		Sensitising (method OECD 406).

Terbuthylazine

Toxicokinetics, metabolism and distribution		Terbuthylazine is rapidly absorbed after oral administration. It is widely distributed in the body, but binds significantly and persistently to red blood cells. It is extensively metabolised and rapidly excreted, within 96 hours. There is no evidence for bioaccumulation.
Acute toxicity		Terbuthylazine is harmful by ingestion. The acute toxicity is measured as:
Route(s) of entry	- ingestion	LD_{50}, oral, rat: 1000 - 1590 mg/kg
	- skin	LD_{50}, dermal, rat: > 2000 mg/kg *
	- inhalation	LC_{50}, inhalation, rat: > 5.3 mg/l/4 h *
Skin corrosion/irritation		Minimally irritating to skin. *
Serious eye damage/irritation		Slightly irritating to eyes. *
Respiratory or skin sensitisation ...		Weakly sensitising. *

Hydrocarbons, C10-C13, aromatics, < 1% naphthalene

Acute toxicity		The substance is not considered as harmful. * The acute toxicity as measured on a similar product is:
Route(s) of entry	- ingestion	LD_{50}, oral, rat: > 5000 mg/kg (method OECD 401)
	- skin	LD_{50}, dermal, rat: > 2000 mg/kg (method OECD 402)
	- inhalation	LC_{50}, inhalation, rat: > 4.7 mg/l (method OECD 403)
Skin corrosion/irritation		Can cause skin dryness (measured on similar products; method OECD 404).
Serious eye damage/irritation		May cause mild, short-lasting discomfort to eyes (measured on similar products; method OECD 405). *
Respiratory or skin sensitisation ...		Not expected to cause respiratory or skin sensitisation (measured on similar products; method OECD 406). *
Aspiration hazard		Aromatic hydrocarbons present an aspiration hazard.

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Ethylene glycol

Acute toxicity		The substance is harmful by ingestion. The acute toxicity as measured on a similar substance is:
Route(s) of entry	- ingestion	LD_{50}, oral, rat: > 4000 mg/kg
	- skin	LD_{50}, dermal, rat: > 2000 mg/kg *
	- inhalation	LC_{50}, inhalation, rat: > 5 mg/l *
		The substance appears to be more toxic to humans. The minimum lethal dose for humans by oral intake has been estimated to about 1300 mg/kg.
Skin corrosion/irritation		Can cause mild skin irritation. *
Serious eye damage/irritation		May cause mild, short-lasting discomfort to eyes. *
Respiratory or skin sensitisation ...		To our knowledge, no indications of respiratory or skin sensitisation have been reported. *

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts

Toxicokinetics, metabolism and distribution	The substance is readily absorbed by the gastrointestinal tract and rapidly excreted with its metabolites, primarily in the urine.
Acute toxicity	The substance is not considered as harmful by single exposure. *
Skin corrosion/irritation	Irritating to skin (method similar to OECD 404)
Serious eye damage/irritation	Irritating to eyes with the potential to cause permanent eye damage (method similar to OECD 405).
Respiratory or skin sensitisation ...	Not sensitising to skin (measured on a similar substance, method similar to OECD 406). *

Poly(oxy-1,2-ethanediyl), α-[2,4,6-tris(1-phenylethyl)phenyl]-ω-hydroxy-

Acute toxicity	The substance is not considered as harmful by single exposure. *
Skin corrosion/irritation	Measured on a similar substance: not irritating to skin. *
Serious eye damage/irritation	Measured on a similar substance: not irritating to eyes. *

2-Ethylhexan-1-ol

Acute toxicity		The substance is not considered as harmful. * The acute toxicity is measured as:
Route(s) of entry	- ingestion	LD_{50}, oral, rat: 3290 mg/kg (method OECD 401)
	- skin	LD_{50}, dermal, rat: > 3000 mg/kg (method OECD 402)
	- inhalation	LC_{50}, inhalation, rat: 0.89 - 5.3 mg/l/4 h (method OECD 403)
		Not harmful at saturated vapour pressure (approx. 0.89 mg/l). Harmful at 5.3 mg/l, a mixture of vapour and droplets.

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Skin corrosion/irritation ..... Mildly irritating to skin.

Serious eye damage/irritation ..... Moderately to severely irritating to eyes.

Respiratory or skin sensitisation ... Not a skin sensitizer. *

Alcohols, C9-11-iso-, C10-rich, ethoxylated

Acute toxicity ..... The substance is expected to be harmful by ingestion based on comparison to similar substances. The acute toxicity is:

Route(s) of entry - ingestion LD_{50}, oral, rat: 300 - 2000 mg/kg

- skin LD_{50}, dermal, rat: not available

- inhalation LC_{50}, inhalation, rat: not available

Skin corrosion/irritation ..... Expected to be mildly irritating to skin based on comparison to similar substances. *

Serious eye damage/irritation ..... Expected to be seriously irritating to eyes with the potential to cause permanent eye damage based on comparison to similar substances.

Respiratory or skin sensitisation ... Not expected to be allergenic based on comparison to similar substances. *

1,2-Benzisothiazol-3(2H)-one

Acute toxicity ..... The substance is harmful by ingestion.

Route(s) of entry - ingestion LD_{50}, oral, rat (male): 670 mg/kg

LD_{50}, oral, rat (female): 784 mg/kg
(method OPPTS 870.1100; measured on 73% solution)

Skin corrosion/irritation ..... Slightly irritating to skin (method OPPTS 870.2500).

Serious eye damage/irritation ..... Severely irritating to eyes (method OPPTS 870.2400).

Respiratory or skin sensitisation ... Moderate dermal sensitizer to guinea pigs (method OPPTS 870.2600). The substance appears to be significantly more sensitising to humans.

11.2. **Information on other hazards** .... No more relevant information is available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity** ..... The product is toxic to daphnids and very toxic to aquatic plants. It may be harmful to fish. It is considered as non-toxic to birds, insects and soil micro-and macroorganisms.

The following has been measured on the product:

- Invertebrates Daphnids (*Daphnia magna*) ..... 48-h EC_{50}: 4.59 mg/l

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- Algae	Green algae (*Pseudokirchneriella subcapitata*) ...	72-h IC_{50}: 38.9 mg/l
- Plants	Duckweed (*Lemna gibba*)	7-day E_rC_{50}: 33.3 µg/l 7-day NOE_rC: 0.5 µg/l
- Bees	Honeybees (*Apis mellifera* L.)	48-h LD_{50}, oral: > 209 µg/bee 48-h LD_{50}, contact: > 800 µg/bee

12.2. **Persistence and degradability** ....

Pethoxamid is rapidly degraded in the environment. Primary degradation half-lives are within a few weeks. Degradation products are not readily biodegradable.

Terbuthylazine is not readily biodegradable, but is degraded in the environment. Primary half-lives in soil are 2 to 6 months, depending on circumstances. Degradation products are not readily biodegradable.

Aromatic hydrocarbons are readily biodegradable as measured according to OECD guidelines. However, they are not always rapidly degraded in the environment, but are expected to be degraded at a moderate rate, depending on circumstances.

The product contains minor amounts of not readily biodegradable ingredients, which may not be degradable in wastewater treatment plants.

12.3. **Bioaccumulative potential** .....

See section 9 for octanol-water partition coefficients.

Neither **pethoxamid** nor **terbuthylazine** is expected to bioaccumulate.

Aromatic hydrocarbons have a potential to bioaccumulate if continuous exposure is maintained. Most components can be metabolised by many organisms. Bioaccumulation factors (BCFs) of some of the main components are 1200 - 3200 by model calculation.

12.4. **Mobility in soil** .....

Pethoxamid is moderately mobile in soil.

Terbuthylazine and its metabolites are not mobile in soil.

Aromatic hydrocarbons are not mobile in the environment, but are volatile and will evaporate to the air if released onto water or on the surface of soil. They float and can migrate to sediment.

12.5. **Results of PBT and vPvB assessment** .....

None of the ingredients meets the criteria for being PBT or vPvB.

12.6. **Endocrine disrupting properties**

None of the ingredients is known to have endocrine disrupting properties.

12.7. **Other adverse effects** .....

Other relevant hazardous effects in the environment are not known.

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods** .....

Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.

Disposal of waste and packagings must always be in accordance with all applicable local regulations.

Disposal of product .....

According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not possible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Disposal of packaging .....

It is recommended to consider possible ways of disposal in the following order:
1. Reuse or recycling should first be considered. Reuse is prohibited except by the authorisation holder. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

14.1. **UN number** 3082

14.2. **UN proper shipping name** ..... Environmentally hazardous substance, liquid, n.o.s. (pethoxamid, terbuthylazine and alkyl(C3-C6)benzenes)

14.3. **Transport hazard class(es)** 9

14.4. **Packing group** III

14.5. **Environmental hazards** ..... Marine pollutant

14.6. **Special precautions for user** ..... Avoid any unnecessary contact with the product. Misuse can result in damage to health. Do not discharge to the environment.

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14.7. **Maritime transport in bulk according to IMO instruments** .. The product is not transported in bulk by ship.

SECTION 15: REGULATORY INFORMATION

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

Seveso category (Dir. 2012/18/EU): dangerous for the environment

All ingredients are covered by EU chemical legislation.

15.2. **Chemical safety assessment** ..... A chemical safety assessment is not required to be included for this product.

♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet ..... Minor corrections only.

List of abbreviations .....

Acute Tox.	Acute Toxicity
AOEL	Acceptable Operator Exposure Level
Asp. Tox.	Aspiration Toxicity
CAS	Chemical Abstracts Service
Dir.	Directive
DNEL	Derived No Effect Level
EC	European Community
EC_{50}	50% Effect Concentration
E_rC_{50}	50% Effect Concentration based on growth
EFSA	European Food Safety Authority
EINECS	European INventory of Existing Commercial Chemical Substances
Eye Dam.	Eye Damage
Eye Irrit.	Eye Irritation
GHS	Globally Harmonized classification and labelling System of of chemicals, seventh revised edition 2017
IC_{50}	50% Inhibition Concentration
IMO	International Maritime Organisation
ISO	International Organisation for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	50% Lethal Concentration
LD_{50}	50% Lethal Dose
LOAEL	Lowest Observed Adverse Effect Level
M-factor	Multiplication factor
NOE_rC	No Observed Effect Concentration measured on growth
n.o.s.	Not otherwise specified
OECD	Organisation for Economic Cooperation and Development
OPPTS	Office of Prevention, Pesticides and Toxic Substances
PBT	Persistent, Bioaccumulative, Toxic
PNEC	Predicted No Effect Concentration
Reg.	Registration, or Regulation
SE	Suspo-emulsion

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Skin Irrit.	Skin Irritation
Skin Sens.	Skin Sensitisation
STOT	Specific Target Organ Toxicity
STOT SE	Specific Target Organ Toxicity by Single Exposure
vPvB	very Persistent, very Bioaccumulative
WHO	World Health Organisation

References ..... Data measured on this and a similar product are unpublished company data. Data on ingredients are available from published literature and can be found several places.

Method for classification ..... Acute oral toxicity: read-across
Eye irritation: read-across
Specific target organ toxicity – repeated exposure: calculation rules
Hazards to the aquatic environment: test data

Used hazard statements .....

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
EUH066	Repeated exposure may cause skin dryness and cracking.
EUH208	Contains pethoxamid and 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 of use.

Advice on training ..... This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by FMC Agricultural Solutions A/S / GHB