

| | | |
|---|--|--------------------------|
| Material group | 2729-03 | Page 1 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |
| Safety data sheet according to EU Reg. 1907/2006 as amended | | Supersedes December 2013 |

SAFETY DATA SHEET

2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE

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** **2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE**
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** **CHEMINOVA A/S**
P.O. Box 9
DK-7620 Lemvig
Denmark
sds@cheminova.dk
- 1.4. **Emergency telephone number** ... (+45) 97 83 53 53 (24 h; for emergencies only)

♣ SECTION 2: HAZARDS IDENTIFICATION

- 2.1. **Classification of the substance or mixture** Acute oral toxicity: Category 4 (H302)
Eye irritation: Category 2 (H319)
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.
- Environmental hazards The product is very toxic to aquatic organisms.
- 2.2. **Label elements**
According to EU Reg. 1272/2008 as amended
Product identifier 2729-03, Pethoxamid 300 g/l + Terbuthylazine 187.5 g/l SE
Contains terbuthylazine and ethylene glycol

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 2 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

Hazard pictograms (GHS07, GHS09)



Signal word Warning

Hazard statements

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
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

P264 Wash hands thoroughly after handling.
P280 Wear protective gloves and eye protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
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/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.

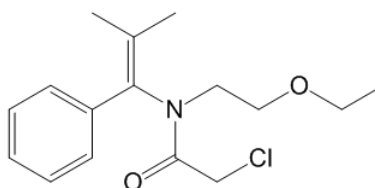
3.2. **Mixtures** See section 16 for full text of hazard statements.

Active ingredients

Pethoxamid Content: 30% by weight
CAS name Acetamide, 2-chloro-N-(2-ethoxyethyl)-N-(2-methyl-1-phenyl-1-prop-1-enyl)-
106700-29-2
CAS no.
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
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)

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 3 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

Structural formula



Terbutylazine

CAS name

CAS no.

IUPAC name

ISO name

EC no. (EINECS no.)

EU index no.

Classification of the ingredient

Content: 18% by weight

1,3,5-Triazine-2,4-diamine, 6-chloro-N-(1,1-dimethylethyl)-N'-ethyl-

5915-41-3

N²-tert-Butyl-6-chloro-N⁴-ethyl-1,3,5-triazine-2,4-diamine

Terbutylazine

227-637-9

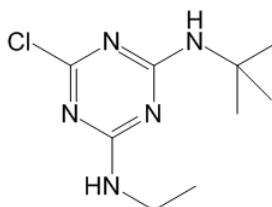
None

Acute oral toxicity: Category 4 (H302)

Hazards to the aquatic environment, acute: Category 1 (H400)

chronic: Category 1 (H410)

Structural formula



Reportable ingredients

| <u>Reportable ingredients</u> | 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) |
| 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 salt Reg. no. 01-2119560592-37 | 2 | None | 932-231-6 | Skin Irrit 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411) |
| 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 | Eye Irrit. 2 (H319) |
| 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) |

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 4 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

♣ 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. Get medical attention immediately. |
| Ingestion | Let the exposed person rinse mouth with water and let him/her drink several glasses of water or milk, but do 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. |
| 4.3. Indication of any immediate medical attention and special treatment needed | Immediate medical attention is required in case of ingestion or eye contact. It may be helpful to show this safety data sheet to physician. |
| Notes to physician | A specific antidote is not known. Gastric lavage and/or administration of activated charcoal can be considered. |

SECTION 5: FIREFIGHTING 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, malodorous, toxic, irritant and inflammable compounds such as nitrogen oxides, hydrogen chloride, sulphur dioxide, carbon monoxide, carbon 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, sealable vessels for the collection of spills should be available. |
|---|--|

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 5 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

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 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.

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).

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be absorbed onto an absorptive material such as universal binder, Fuller's earth or other absorbent clays. Collect the contaminated absorbent in suitable containers. Clean area with detergent and much water. Absorb wash liquid with 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. 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. Otherwise, the material should be handled by mechanical means as much as possible as well. 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.

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 6 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

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.

Inhalation of vapours of the product can cause lowered consciousness, which increases the risks of operating machinery and driving.

Do not discharge to the environment. 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 0.02 mg/kg bw/day

PNEC, aquatic environment 0.29 µg/l

Terbuthylazine

DNEL, systemic 0.0032 mg/kg bw/day

PNEC, aquatic environment 1.9 µg/l

Aromatic hydrocarbons

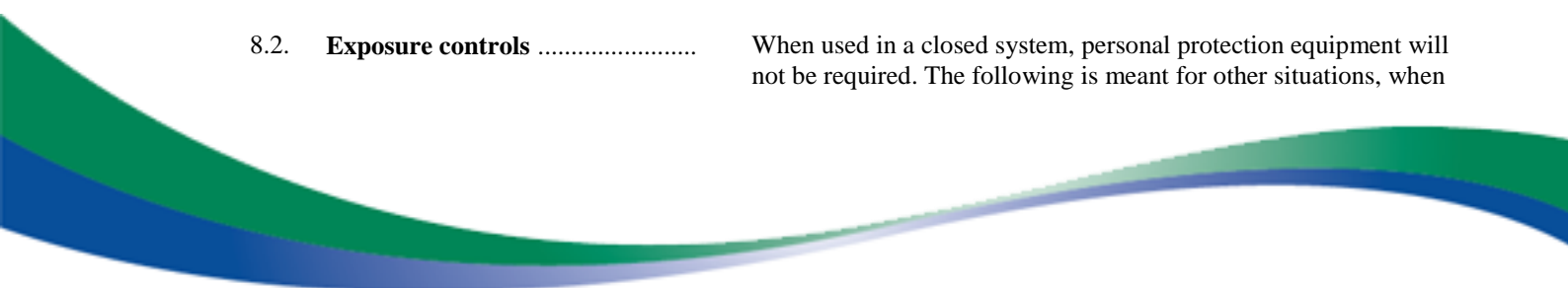
DNEL, dermal 12.5 mg/kg bw/day

DNEL, inhalation 151 mg/m³

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



| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 7 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

the use of a closed system is not possible, or when it is necessary to open the 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.



Respiratory protection

In the event of a discharge of the material which produces a heavy vapour or mist, workers should 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 work area 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 appreciable or prolonged exposure, coveralls of barrier laminate may be required.

♣ SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on physical and chemical properties

| | |
|--|--|
| Appearance | Light brown liquid (opaque) |
| Odour | Aromatic |
| Odour threshold | Not determined |
| pH | Undiluted: 3.93 1% dilution in water: 5.02 |
| Melting point/freezing point | Not determined |
| Initial boiling point and boiling range | Not determined |
| Flash point | Aromatic hydrocarbons : 200 - 310°C 110°C (Setaflash closed cup) |
| Evaporation rate | (Butyl acetate = 1) Aromatic hydrocarbons : < 0.01 |
| Flammability (solid/gas) | Not applicable (liquid) |
| Upper/lower flammability or explosive limits | Aromatic hydrocarbons : 0.6 - 7.0 vol% (≈ 0.6 - 7.0 kPa) |
| 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 |

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 8 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

| | |
|---------------------------------------|---|
| Vapour density | (Air = 1) |
| Relative density | Aromatic hydrocarbons : > 1 1.075 at 20°C |
| Solubility(ies) | 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 | 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 |
| Autoignition temperature | 481°C |
| Decomposition temperature | Not determined |
| Viscosity | 107 mPa.s at 19°C, 97.5 mPa.s at 41°C |
| Explosive properties..... | Not explosive |
| Oxidising properties | Not oxidising |

9.2. Other information

Miscibility The product is dispersible in water.

SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| 10.1. Reactivity | To our knowledge, the product has no special reactivities. |
| 10.2. Chemical stability | Stable at ambient temperatures. |
| 10.3. Possibility of hazardous reactions | None known. |
| 10.4. Conditions to avoid | Heating of the product will produce 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 toxicological effects** * = Based on available data, the classification criteria are not met.

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 * |
| - inhalation | LC ₅₀ , inhalation, rat: > 5.0 mg/1/4 h * |
| Skin corrosion/irritation | May be moderately irritating to skin (measured on a similar product). * Can cause skin dryness. |
| Serious eye damage/irritation | Measured on a similar product: irritating to eyes. |

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 9 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

| | |
|---|---|
| Respiratory or skin sensitisation ... | Measured on a similar product: not a skin sensitizer. * |
| 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 known 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. * |
| Aspiration hazard | The product does not present an aspiration hazard. * |
| Symptoms and effects, acute and delayed | Primarily irritation. After ingestion, only non-specific symptoms were seen in animal tests, such as decreased activity. |

Pethoxamid

Toxicokinetics, metabolism and distribution

Pethoxamid is rapidly absorbed and with distribution mainly 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) |
| | - 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). |

Terbutylazine

Toxicokinetics, metabolism and distribution

Terbutylazine 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 | Terbutylazine 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 * |

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 10 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

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 LD₅₀, oral, rat: > 5000 mg/kg (method OECD 401)
 - skin LD₅₀, dermal, rat: > 2000 mg/kg (method OECD 402)
 - inhalation LC₅₀, 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.

Ethylene glycol

Toxicokinetics, metabolism and distribution After oral intake, ethylene glycol is rapidly absorbed and widely distributed in the body. It is extensively metabolised and ethylene glycol and its metabolites are rapidly excreted with plasma half-lives of 4 hours in rats and dogs. Its harmful effects appear to be caused by the metabolites glycolic acid and oxalic acid.

Acute toxicity The substance is harmful by ingestion. The acute toxicity is measured as:

Route(s) of entry - ingestion LD₅₀, oral, rat: 4700 mg/kg
 - skin LD₅₀, dermal, rat: 2800 mg/kg *
 - inhalation LC₅₀, inhalation, rat: > 5 mg/l (measured on a similar substance) *

The substance appears to be more toxic to humans. The minimum lethal dose for humans by oral intake has been estimated to about 1.6 mg/kg.

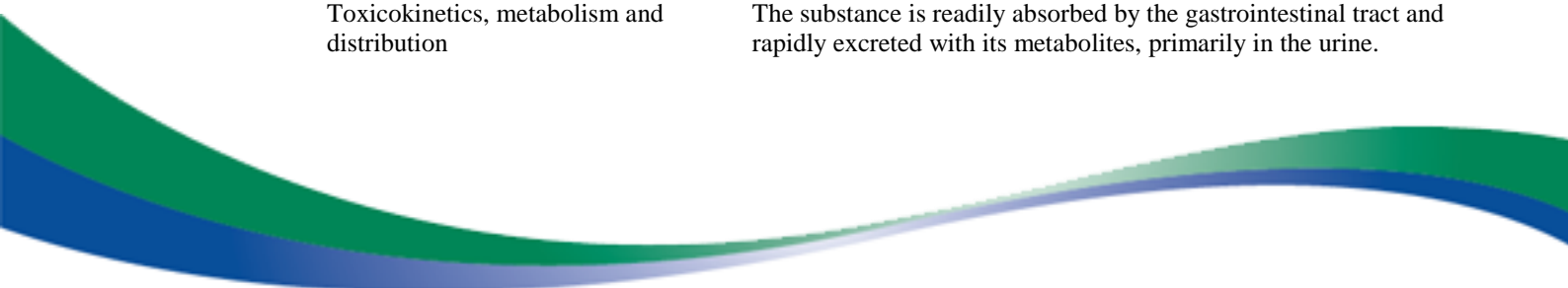
Skin corrosion/irritation Can cause mild skin irritation. *

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 salt

Toxicokinetics, metabolism and distribution The substance is readily absorbed by the gastrointestinal tract and rapidly excreted with its metabolites, primarily in the urine.



| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 11 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

| | | |
|---------------------------------------|--------------|---|
| Acute toxicity | | The substance is not considered as harmful by single exposure. * The following has been measured on the substance: |
| Route(s) of entry | - ingestion | LD ₅₀ , oral, rat: 4445 mg/kg |
| | - skin | LD ₅₀ , dermal, rat: > 2000 mg/kg (measured on a similar substance, method similar to OECD 402) |
| | - inhalation | LC ₅₀ , inhalation, rat: not available |
| 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 product is not considered as harmful by inhalation, ingestion or skin contact. * The acute toxicity is: |
| Route(s) of entry | - ingestion | LD ₅₀ , oral, rat: > 2000 mg/kg |
| | - skin | LD ₅₀ , dermal, rat: > 2000 mg/kg (measured on a similar substance) |
| | - inhalation | LC ₅₀ , inhalation, rat: not available |
| 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. |
| 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 |

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 12 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

| | |
|--|---|
| 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. * |
| <u><i>1,2-Benzisothiazol-3(2H)-one</i></u> | |
| 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 | LD ₅₀ , dermal, rat: > 2000 mg/kg * (method OPPTS 870.1200 measured on 73% solution) |
| - inhalation | LC ₅₀ , inhalation, rat: not available |
| 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. |

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 (<i>Daphnia magna</i>) | 48-h EC ₅₀ : 4.59 mg/l |
| - Algae | Green algae (<i>Pseudokirchneriella subcapitata</i>) .. | 72-h IC ₅₀ : 38.9 mg/l |
| - Plants | Duckweed (<i>Lemna gibba</i>) | 7-day E _r C ₅₀ : 33.3 µg/l 7-day NOE _r C: 0.5 µg/l |
| - Bees | Honey bees (<i>Apis mellifera</i> L.) | 48-h LD ₅₀ , contact: > 800 µg/bee 48-h LD ₅₀ , oral: > 209 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.

Terbutylazine 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

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 13 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

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 waste water treatment plants.

12.3. **Bioaccumulative potential** See section 9 for octanol-water partition coefficients.

Neither **pethoxamid** nor **terbuthylazine** are 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. **Other adverse effects** Other relevant hazardous effects in the environment are not known.

| |
|--|
| 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.

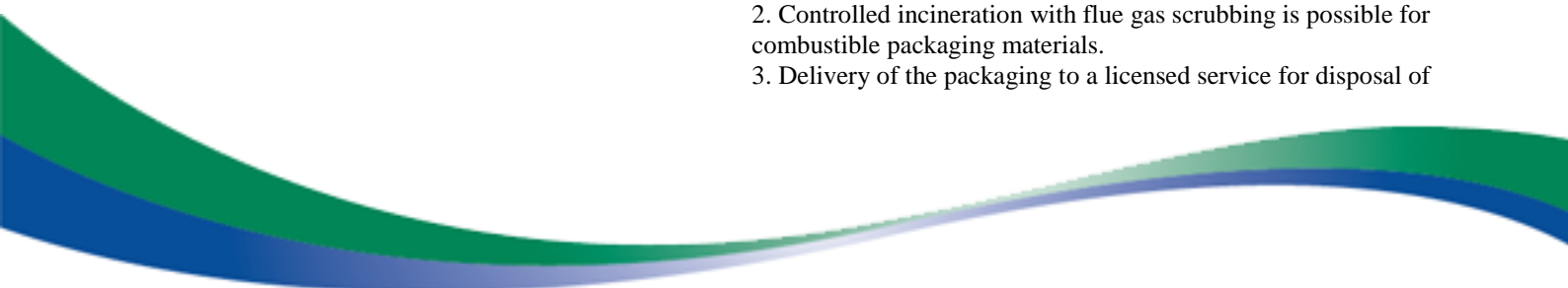
Disposal of waste and packagings must always be in accordance with all applicable local regulations.

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 feasible, 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. 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



| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 14 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

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 | Do not discharge to the environment. |
| 14.7. | Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | The product should not be 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 in Annex I to 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 | CAS | Chemical Abstracts Service |
| | Dir. | Directive |
| | DNEL | Derived No Effect Level |
| | EC | European Community |
| | EC ₅₀ | 50% Effect Concentration |
| | E _r C ₅₀ | 50% Effect Concentration measured on growth |
| | EINECS | European INventory of Existing Commercial Chemical Substances |
| | GHS | Globally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013 |
| | IBC | International Bulk Chemical code |
| | IC ₅₀ | 50% Inhibition Concentration |
| | ISO | International Organisation for Standardization |
| | IUPAC | International Union of Pure and Applied Chemistry |

| | | |
|----------------|--|---------------|
| Material group | 2729-03 | Page 15 of 15 |
| Product name | 2729-03, PETHOXAMID 300 g/l + TERBUTHYLAZINE 187.5 g/l SE | December 2015 |

| | |
|--------------------|---|
| LC ₅₀ | 50% Lethal Concentration |
| LD ₅₀ | 50% Lethal Dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| MARPOL | Set of rules from the International Maritime Organisation (IMO) for prevention of sea pollution |
| NOE _r C | 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. | Regulation |
| SE | Suspo-emulsion |
| STOT | Specific Target Organ Toxicity |
| 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 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. 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 Cheminova A/S may exist. The user has to check the validity of the information under local circumstances.

Prepared by: Cheminova A/S / GHB

