

Material group	BP20301	Page 1 of 15
Product name	Navigate FLUFENACET 400 g/l + DIFLUFENICAN 200 g/l SC	February 2017
Safety data sheet according to EU Reg. 1907/2006 as amended		Supersedes September 2016

SAFETY DATA SHEET

FLUFENACET 400 g/l + DIFLUFENICAN 200 g/l SC



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** **NAVIGATE**
FLUFENACET 400 g/l + DIFLUFENICAN 200 g/l SC
Contains flufenacet
- 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**
 Thyborønvej 78
 DK-7673 Harbøre
 Denmark
SDS.Ronland@fmc.com
- 1.4. **Emergency telephone number**
Company (+45) 97 83 53 53 (24 h; for emergencies only)
- Medical emergencies:
- | | |
|-------------------------------------|---|
| Austria: +43 1 406 43 43 | Norway: +47 22 591300 |
| Belgium: +32 70 245 245 | Poland: +48 22 619 66 54 |
| Bulgaria: +359 2 9154 409 | +48 22 619 08 97 |
| Czech Republic: +420 224 919 293 | Portugal: 808 250 143 (in Portugal only) |
| +420 224 915 402 | +351 21 330 3284 |
| Denmark: +45 82 12 12 12 | Romania: +40 21318 3606 |
| France: +33 (0) 1 45 42 59 59 | Slovakia: +421 2 54 77 4 166 |
| Finland: +358 9 471 977 | Slovenia: +386 41 650 500 |
| Hungary: +36 80 20 11 99 | Spain: +34 91 562 04 20 |
| Ireland (Republic): +352 1 809 2166 | Sweden: +46 08-331231 |
| Italy: +39 02 6610 1029 | 112 |
| Lithuania: +370 523 62052 | Switzerland: 145 |
| +370 687 53378 | United Kingdom: 0870 600 6266 (in the UK only) |
| Luxembourg: +352 8002 5500 | U.S.A. & Canada: +1 800 / 331-3148 (PROSAR) |
| Netherlands: +31 30 274 88 88 | All other countries: +1 651 / 632-6793 (PROSAR - Collect) |

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SECTION 2: HAZARDS IDENTIFICATION

- 2.1. **Classification of the substance or mixture**
- 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 III: Slightly hazardous
- Health hazards The product may be harmful by prolonged or 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 Flufenacet 400 g/l + Diflufenican 200 g/l SC
 Contains flufenacet
- Hazard pictograms (GHS08, GHS09)
- 

- Signal word Warning
- Hazard statements
- H373 May cause damage through prolonged or repeated exposure.
 H410 Very toxic to aquatic life with long lasting effects.
- Supplementary hazard statements
- EUH208 Contains 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
- P260 Do not breathe vapours.
 P264 Wash hands thoroughly after handling.
 P273 Avoid release to the environment.
 P314 Get medical attention/advice if you feel unwell.
 P391 Collect spillage.
 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

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

Active ingredients

Flufenacet

CAS name

CAS no.

IUPAC name(s)

ISO name/EU name

EC no. (EINECS no.)

EU index no.

Classification of the ingredient

Content: 33% by weight

Acetamide, N-(4-fluorophenyl)-N-(1-methylethyl)-2-[[5-(trifluoromethyl)-1,3,4-thiadiazol-2-yl]oxy]-

142459-58-3

4'-Fluoro-N-isopropyl-2-(5-trifluoromethyl-1,3,4-thiadiazol-2-yloxy)acetanilide

Flufenacet

None

613-164-00-9

Acute oral toxicity: Category 4 (H302)

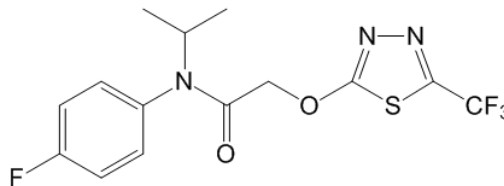
Sensitisation – skin: Category 1 (H317)

Specific target organ toxicity – repeated exposure: Category 2 (H373)

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

chronic: Category 1 (H410)

Structural formula



Diflufenican

CAS name

CAS no.

IUPAC name

ISO name/EU name

EC no. (EINECS no.)

EU index no.

Classification of the ingredient

Structural formula

Content: 16% by weight

3-Pyridinecarboxamide, N-(2,4-difluorophenyl)-2-[3-(trifluoromethyl)phenoxy]-

83164-33-4

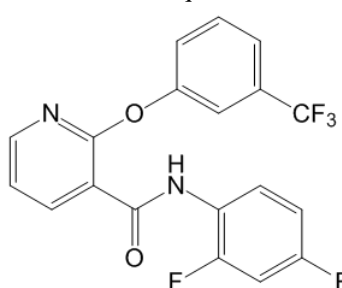
2',4'-Difluoro-2-(α,α,α -trifluoro-*m*-tolylloxy)nicotinamide

Diflufenican

None

616-032-00-9

Hazards to the aquatic environment, chronic: Category 3 (H412)



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<u>Reportable ingredients</u>	Content (% w/w)	CAS no.	EC no. (EINECS no.)	Classification
Glycerol	10	56-81-5	200-289-5	None
Sodium alkyl naphthalenesulphonate-formaldehyde condensate	2	577773-56-9	None	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
1,2-Benzisothiazol-3(2H)-one	0.01	2634-33-5	220-120-9	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 1 (H400)

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.
Ingestion	Inducing vomiting is not recommended. Rinse mouth and drink water or milk. If vomiting does occur, rinse mouth and drink fluids again. Call a doctor or get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

In animal tests non-specific symptoms were seen, such as irregular respiration and lowered 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. Treatment is as for a general chemical. 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.
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- 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 fluoride, carbon monoxide, carbon dioxide, sulphur dioxide and various fluorinated 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.
- 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.

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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.
- Do not wear heavily contaminated clothing. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after use.
- 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. Recommended storage temperature 5 - 30°C.
- 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. 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

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for the active ingredients in this product.

		Year	
Glycerol	ACGIH (USA) TLV	2015	Not established
	OSHA (USA) PEL	2015	15 mg/m ³ , total dust (mist)
	EU, 2000/39/EC as amended	2009	5 mg/m ³ , respirable fraction
	Germany, MAK	2014	Not established
	HSE (UK) WEL	2011	Not established

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

Flufenacet	
DNEL	0.017 mg/kg bw/day
PNEC, aquatic	44 ng/l

Diflufenican	
DNEL, systemic	0.11 mg/kg bw/day
PNEC, aquatic environment	2.5 ng/l

Glycerol	
DNEL, inhalation	56 mg/m ³
PNEC, freshwater	0.885 mg/l
PNEC, marine water	0.088 mg/l

- 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 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

The product does not automatically present an airborne exposure concern during normal handling, but 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, nitrile rubber or viton. The breakthrough times of these materials for the product are unknown, but it is expected that they will give adequate protection.

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Eye protection

Wear safety glasses. 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 physical and chemical properties

Appearance	Beige to light brown liquid
Odour	Slight odour of mixed chemicals
Odour threshold	Not determined
pH	Undiluted: 3.6 - 5.0
Melting point/freezing point	Not determined
Initial boiling point and boiling range	100°C
Flash point	> 100°C if any
Evaporation rate	Not determined
Flammability (solid/gas)	Not applicable (liquid)
Upper/lower flammability or explosive limits	Not determined
Vapour pressure	Flufenacet : 9×10^{-5} Pa at 20°C Diflufenican : 4.25×10^{-6} Pa at 25°C 8.19×10^{-6} Pa at 35°C
Vapour density	Not determined
Relative density	Not determined
Solubility(ies)	Density: 1.24 g/ml Solubility of flufenacet at 25°C in: toluene > 200 g/l hexane 8.7 g/l water 56 mg/l at 20°C Solubility of diflufenican at 20°C in: ethyl acetate 67 - 80 g/l hexane < 10 g/l water < 0.05 mg/l at 25°C
Partition coefficient n-octanol/water	Flufenacet : $\log K_{ow} = 3.2$ Diflufenican : $\log K_{ow} = 4.9$
Autoignition temperature	> 400 °C if any
Decomposition temperature	Decomposition of flufenacet starts at 150°C
Viscosity	1400 - 2900 mPa.s
Explosive properties.....	Not explosive



Oxidising properties	Not oxidising
Other information	
Miscibility	The product is dispersible in water.

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.

Acute toxicity	The product is not considered harmful by single exposure. * The acute toxicity is measured as:
Route(s) of entry	
- ingestion	LD ₅₀ , oral, rat: > 2000 mg/kg (method OECD 425) signs of toxicity at this concentration
- skin	LD ₅₀ , dermal, rat: > 2000 mg/kg (method OECD 402)
- inhalation	LC ₅₀ , inhalation, rat: > 5.15 mg/l/4 h (method OECD 403)
Skin corrosion/irritation	Minimally irritating to skin (method OECD 404). *
Serious eye damage/irritation	Minimally irritating to eyes (method OECD 405). *
Respiratory or skin sensitisation ...	Not an allergenic skin sensitizer (method OECD 429). *
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 have been observed after single exposure. *

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STOT – repeated exposure	The following was found for the active ingredient flufenacet: Target organs: liver, thyroid, eye, kidney LOEL: 25 ppm (1.2 mg/kg bw/day) in a 2-year rat study based on increased incidence of renal pelvic mineralisation.	
Aspiration hazard	The product does not present an aspiration pneumonia hazard. *	
Symptoms and effects, acute and delayed	In animal tests non-specific symptoms were seen, such as irregular respiration and lowered activity.	
<u>Flufenacet</u> Toxicokinetics, metabolism and distribution	The substance is rapidly absorbed after oral intake and widely distributed in the body. It is extensively metabolised. The substance and its metabolites are rapidly excreted, almost completely within 72 hours. There is no potential for accumulation.	
Acute toxicity	The substance is harmful by ingestion. It is not expected to be harmful by skin contact or inhalation. The acute toxicity is measured as:	
Route(s) of entry - ingestion	LD ₅₀ , oral, rat (male): 1617 mg/kg	
	LD ₅₀ , oral, rat (female): 589 mg/kg	
- skin	LD ₅₀ , dermal, rat: > 2000 mg/kg *	
- inhalation	LC ₅₀ , inhalation, rat: > 3.74 mg/l *	
Skin corrosion/irritation	Not irritating to skin. *	
Serious eye damage/irritation	Not irritating to eyes. *	
Respiratory or skin sensitisation ...	Skin sensitizer.	
<u>Diflufenican</u> Toxicokinetics, metabolism and distribution	Diflufenican is rapidly absorbed after oral administration. Distribution occurs preferentially to tissues with a high fat content. It is extensively metabolised and rapidly excreted.	
Acute toxicity	The substance is not harmful by inhalation, in contact with skin or if swallowed. * The acute toxicity is measured as:	
Route(s) of entry - ingestion	LD ₅₀ , oral, rat: > 5000 mg/kg (5 studies)	
- skin	LD ₅₀ , dermal, rat: > 2000 mg/kg (method OECD 402)	
- inhalation	LC ₅₀ , inhalation, rat: > 5.12 mg/l/4 h (method US EPA (1985))	
Skin corrosion/irritation	The substance is not irritating to skin (method US EPA (1985)). *	
Serious eye damage/irritation	The substance may be slightly irritating to eyes (US EPA (1985)). *	
Respiratory or skin sensitisation ...	The substance was not sensitising in the Local Lymph Node Assay (method OECD 429). *	

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Sodium alkyl naphthalenesulphonate-formaldehyde condensate

Acute toxicity	The substance is not considered harmful by single exposure. *
Route(s) of entry - ingestion	LD ₅₀ , oral, rat: > 5000 mg/kg
- skin	LD ₅₀ , dermal, rat: not available
- inhalation	LC ₅₀ , inhalation, rat: not available
Skin corrosion/irritation	May be slightly irritating to skin. *
Serious eye damage/irritation	Irritating to eyes.
STOT – single exposure	Inhalation of dust can cause irritation of airways. It is not clear if the criteria for classification are met.

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	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 very toxic to aquatic algae and plants. It is less toxic to fish and soil macroorganisms. It is not considered as harmful to birds, insects, aquatic invertebrates and soil microorganisms.

The ecotoxicity is measured on the product as:

- Fish	Bluegill sunfish (<i>Lepomis macrochirus</i>)	96-h LC ₅₀ : 6.43 mg/l
- Invertebrates	Daphnids (<i>Daphnia magna</i>)	48-h EC ₅₀ : 114 mg/l
- Algae	Green algae (<i>Pseudokirchneriella subcapitata</i>)	72-h EC ₅₀ : 3.06 µg/l
- Plants	Duckweed (<i>Lemna gibba</i>)	7-day EC ₅₀ : 66.7 µg/l 7-day NOEC: 1.0 µg/l
- Earthworms	<i>Eisenia foetida foetida</i>	28-day LC ₅₀ : 81 mg/kg dry substrate



- Bees	Honeybees	48-h LD ₅₀ , acute oral: > 420 µg/bee
		48-h LD ₅₀ , contact: > 600 µg/bee

Flufenacet is biodegradable, but does not meet the criteria for being readily biodegradable. It undergoes slow degradation in the environment and in waste water treatment plants. Primary degradation half-lives vary with circumstances from a few weeks to a few months in aerobic soil and water.

The product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

See section 9 for octanol-water partition coefficients.

Diflufenican has a potential to bioaccumulate. The Bioconcentration Factor (BCF) was measured to be approx. 1500 for whole fish (rainbow trout). It was excreted within 14 days.

Under normal conditions **flufenacet** is of low mobility in soil.

In the environment **diflufenican** is not mobile, but is readily absorbed by soil particles.

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

Other relevant hazardous effects in the environment are not known.

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.

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

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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 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. (flufenacet and diflufenican)
- 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.
- 14.7. **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code** 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.
 Young people under the age of 18 are not allowed to work with the product.
 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.

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♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet	Minor corrections only.
List of abbreviations	<p>ACGIH American Conference of Governmental Industrial Hygienists</p> <p>CAS Chemical Abstracts Service</p> <p>Dir. Directive</p> <p>DNEL Derived No Effect Level</p> <p>EC European Community</p> <p>EC₅₀ 50% Effect Concentration</p> <p>EINECS European INventory of Existing Commercial Chemical Substances</p> <p>GHS Globally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013</p> <p>HSE Health & Safety Executive, UK</p> <p>IBC International Bulk Chemical code</p> <p>ISO International Organisation for Standardization</p> <p>IUPAC International Union of Pure and Applied Chemistry</p> <p>LC₅₀ 50% Lethal Concentration</p> <p>LD₅₀ 50% Lethal Dose</p> <p>LOEL Lowest Observed Effect Level</p> <p>MAK Maximale Arbeitsplatz-Konzentration</p> <p>MARPOL Set of rules from the International Maritime Organisation (IMO) for prevention of sea pollution</p> <p>NOEC No Observed Effect Concentration</p> <p>n.o.s. Not otherwise specified</p> <p>OECD Organisation for Economic Cooperation and Development</p> <p>OPPTS Office of Prevention, Pesticides and Toxic Substances</p> <p>OSHA Occupational Safety and Health Administration</p> <p>PBT Persistent, Bioaccumulative, Toxic</p> <p>PEL Personal Exposure Limit</p> <p>PNEC Predicted No Effect Concentration</p> <p>Reg. Regulation</p> <p>SC Suspension Concentrate</p> <p>STOT Specific Target Organ Toxicity</p> <p>TLV Threshold Limit Value</p> <p>US EPA Environmental Protection Agency (USA)</p> <p>vPvB very Persistent, very Bioaccumulative</p> <p>WEL Workplace Exposure Limit</p> <p>WHO World Health Organisation</p>
References	Data measured on the product are unpublished company data. Data on ingredients are available from published literature and can be found several places.
Method for classification	Specific target organ toxicity – repeated exposure: calculation rules Hazards to the aquatic environment: test data

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Used hazard statements	H302	Harmful if swallowed.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H318	Causes serious eye damage.
	H319	Causes serious eye irritation.
	H373	May cause damage through prolonged or repeated exposure.
	H400	Very toxic to aquatic life.
	H410	Very toxic to aquatic life with long lasting effects.
	H412	Harmful to aquatic life with long lasting effects.
	EUH208	Contains 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