

Product no. 54A/5425
Product name **ACRINATHRIN 75 g/l EW**December 2012
Replaces May 2011

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SAFETY DATA SHEET

ACRINATHRIN 75 g/l EW

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** **Acrinathrin 75 g/l EW**
Trade name(s) **Rufast, Orytis**
- 1.2. **Relevant identified uses of the substance or mixture and uses advised against** Can be used as insecticide 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** See section 16 for full text of R-phrases and hazard statements.
- DPD classification of the product according to Dir. 1999/45/EC as amended N;R50/53
- CLP classification of the product according to Reg. 1272/2008 as amended Hazards to the aquatic environment: Acute Category 1 (H400)
Chronic Category 1 (H410)
- WHO classification Class U (unlikely to present acute hazard in normal use)
Guidelines to Classification 2009
- Health hazards The active ingredient acrinathrin is harmful by inhalation.

Chronic exposure may cause changes in the central and peripheral nervous systems.

Inhalation of the product is uncomfortable and can result in coughing and difficulty breathing. This effect should be taken as a warning to avoid further exposure.
- Environmental hazards The product is very toxic to aquatic organisms.

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2.2. Label elements

According to Dir. 1999/45/EC as amended

Hazard symbol N



Dangerous
for the
environment

Contains acrinathrin

R-phrase
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases
S24/25 Avoid contact with skin and eyes.
S28 After contact with skin, immediately wipe off with dry cloth followed by washing with plenty of water and soap.
S60 This material and its container must be discarded as hazardous waste.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Other mention To avoid risks to man and the environment, comply with the instructions of use.

Additional phrases for final use of the product for plant protection

S2 Keep out of the reach of children.
S23 Do not breathe spray.
S29 Do not empty into drains.
SP1 Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

According to EU Reg. 1272/2008 as amended

Product identifier Acrinathrin 75 g/l EW

Hazard pictogram (GHS09)



Signal word Warning

Hazard statement
H410 Very toxic to aquatic life with long lasting effects.

Supplementary hazard statement
EUH401 To avoid risks to human health and the environment, comply with the instructions of use.

Supplementary phrase for final use of the product for plant protection: SP1 Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

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Precautionary statements

P262 Do not get in eyes, on skin, or on clothing.
P273 Avoid release to the environment.
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.

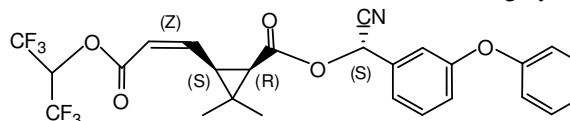
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances** The product is a mixture, not a substance.
3.2. **Mixtures** See section 16 for full text of R-phrases and hazard statements.

Active ingredient

Acrinathrin Content: 7% by weight
CAS name Cyclopropanecarboxylic acid, 2,2-dimethyl-3-[(1Z)-3-oxo-[2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]-1-propenyl]-, (S)-cyano(3-phenoxyphenyl)methyl ester, (1R,3S)-
CAS no. 101007-06-1
IUPAC name (1R,3S)-((S)-Cyano(3-phenoxyphenyl)methyl 3-((Z)-3-(1,1,1,3,3,3-hexafluoropropan-2-yloxy)-3-oxoprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate
ISO name/EU name Acrinathrin
EC no. (list no.) 600-147-6
EU index no.
DSD classification of the ingredient Xn;R20 N;R50/53
CLP classification of the ingredient Acute inhalation toxicity: Category 4 (H332)
Hazards to the aquatic environment: Acute Category 1 (H400)
Chronic Category 1 (H410)

Structural formula



Reportable ingredients

	Content (% w/w)	CAS no.	EC no. (EINECS no.)	DSD classification	CLP classification
Diethyl phthalate	23	84-66-2	201-550-6	none	none
Propylene glycol	15	57-55-6	200-338-0	none	none

♣ SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures** If exposure has occurred, do not wait for symptoms to develop, but immediately start the procedures described below.

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. Do not

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start with flushing with water, but wipe off with dry cloth or using talcum powder, followed by washing with water and soap. Thereafter apply lidocain, vitamin E cream, fatty skin care oil or skin care cream. See physician immediately if contamination is severe or if feeling unwell.

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 immediately.

Ingestion

Let the exposed person rinse mouth with water and let him/her drink several glasses of water (not milk or cream or other substance containing fats, which may enhance absorption), but do not induce vomiting. If vomiting does occur, let him/her rinse mouth and give water again. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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

Inhalation of the product is uncomfortable and can result in coughing and difficulty breathing.

Acrinathrin can cause feelings of burning, tingling or numbness in exposed areas (paraesthesia).

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

If any sign of poisoning occurs, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to acrinathrin, a pyrethroid insecticide. Describe his/her condition and the extent of exposure. Immediately remove the exposed person from the area where the product is present.

As soon as a feeling of tingling is noted in any skin area (see section 11), it is recommended to immediately apply lidocain or a vitamin E cream. For this purpose lidocain or vitamin E cream should be available at the workplace.

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

Notes to physician

If allowed to penetrate the skin, this product may cause an irritation similar to sunburn. The substance will be drawn into a non-polar environment such as a fat based oil or cream. Vitamin E cream has been reported to be beneficial against other pyrethroid insecticides. Water is highly polar and will not decrease, but may prolong the irritation. Hot water may increase the pain.

Gastric lavage and administration of activated charcoal can be considered. After decontamination, symptomatic treatment and supportive therapy as indicated. Recovery is normally spontaneous.

For eye contamination, instillation of local anaesthetic 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.

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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 carbon monoxide, carbon dioxide, hydrogen fluoride, nitrogen oxides, hydrogen cyanide, phosphorus pentoxide 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 plan for the avoidance of spills. If spillage does occur, it has to be removed and the area cleaned immediately according to a predetermined plan. It is recommended to clean area or equipment also if contamination is suspected.
- Empty, sealable vessels for the collection of spills should be available.
- In case of large spill (involving 10 tons 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 vapour and mist formation as much as possible.
- 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.
- 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 imperative 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. 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.
- Avoid inhalation of vapour or mist. Avoid skin contact with vapour as well. Keep all unprotected persons and children away from working area.
- Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap and then throw them out. 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.
- The respirator should be cleaned and filter replaced according to the accompanying instructions.
- 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 against strong heat, frost and excessive sunlight.
- Storage temperature 0 - 30°C.
- Keep in tightly 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.

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♣ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Personal exposure limits No exposure limit values have been established for the active ingredient acrinathrin. Nevertheless, care should be taken to minimise inhalation. For other pyrethroid pesticides personal exposure limits of 0.02 - 0.04 mg/m³ have been proposed.

		Year	
Diethyl phthalate	ACGIH (USA) TLV	2012	TWA 5 mg/m ³
	OSHA (USA) PEL	2012	Not established
	EU, 2000/39/EC as amended	2009	Not established
	Germany, MAK	2012	Not established
	HSE (UK) WEL	2007	TWA 5 mg/m ³ Short-term exposure limit 10 mg/m ³
Propylene glycol	AIHA (USA) WEEL	2012	10 mg/m ³
	MAK (Germany)	2012	Cannot be established at present
	HSE (UK) WEL	2007	8-hr TWA 150 ppm (474 mg/m ³), total (vapour and particulates)

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

Acrinathrin

DNEL 0.026 mg/kg bw/day
PNEC 0.32 ng/l

The work area should always be kept clean. Used personal protection equipment should either be thrown out or be cleaned immediately after use. The respirator must be cleaned and the filter replaced according to the accompanying instructions.

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.



Respiratory protection

The inhalation of vapour or mist must be avoided, if required by using a face mask or officially approved respiratory protection equipment with a universal filter type including particle filter.



Protective gloves

Wear long chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for acrinathrin 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

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manually and to change the gloves immediately if there is a suspicion of contamination. Be careful not to touch anything with contaminated gloves. Used gloves should be thrown out and not be reused. Wash hands with water and soap immediately after work is finished.

To avoid spreading of chemicals, it may be useful to have an appointment for the workplace where gloves may be worn and especially where gloves may not be worn.



Eye protection

Wear safety glasses or face mask. The possibility of eye contact should be excluded.



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 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	Off-white liquid
Odour	Slight aromatic odour
Odour threshold	Not determined
pH	Undiluted: 4.57 at 25°C 1% emulsion in water: 5.15 at 25°C
Melting point/freezing point	Not determined
Initial boiling point and boiling range	Not determined
Flash point	Acrinathrin : Decomposes > 100°C
Evaporation rate	Not determined
Flammability (solid/gas)	Not applicable (the product is a liquid)
Upper/lower flammability or explosive limits	Not determined
Vapour pressure	Acrinathrin : 2.2×10^{-7} Pa at 20°C
Vapour density	Not determined
Relative density	Not determined
Solubility(ies)	Density: 1.07 g/ml at 20°C Solubility of acrinathrin at 25° in: acetone 700 g/l ethyl acetate > 500 g/l chloroform > 500 g/l dimethylformamide > 500 g/l dichloromethane > 500 g/l xylene 500 g/l toluene 550 g/l isopropyl ether 170 g/l ethanol 61 g/l n-octanol 13 g/l

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Partition coefficient n-octanol/water	n-hexane 10 g/l
Autoignition temperature	water < 0.02 mg/l
Decomposition temperature	Acrinathrin : log K_{ow} = 5.2 at 25°C
Viscosity	Not determined
Explosive properties	Not determined
Oxidising properties	534 mPa.s at 25°C
	Not explosive
	Not oxidising

9.2. Other information

Miscibility The product is emulsifiable in water.

SECTION 10: STABILITY AND REACTIVITY

- | | |
|---|--|
| 10.1. Reactivity | To our knowledge, the product has no special reactivities. |
| 10.2. Chemical stability | Acrinathrin decomposes on heating. |
| 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 | The product is stable under acidic conditions, but not stable under alkaline conditions. |
| 10.6. Hazardous decomposition products | See subsection 5.2. |

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product

Acute toxicity	The product is not considered as harmful by inhalation, ingestion or skin contact. The acute toxicity of the product is measured as:
Route(s) of entry	
- ingestion	LD ₅₀ , oral, rat: > 2000 mg/kg (method OECD 401)
- skin	LD ₅₀ , dermal, rat: > 4000 mg/kg (method OECD 402)
- inhalation	LC ₅₀ , inhalation, rat: > 4.84 mg/l/4 h (non-specific signs of toxicity at this concentration; method OECD 403)
	Based on available data, the classification criteria are not met. (B.o.a.d.t.c.c.a.n.m.)
Skin corrosion/irritation	Not irritating to skin (method OECD 404). B.o.a.d.t.c.c.a.n.m.
Serious eye damage/irritation	Slightly irritating to eyes (method OECD 405). B.o.a.d.t.c.c.a.n.m.
Respiratory or skin sensitisation ...	Not a skin sensitizer (method OECD 406). B.o.a.d.t.c.c.a.n.m.
Aspiration hazard	The product does not present an aspiration pneumonia hazard. B.o.a.d.t.c.c.a.n.m.
Symptoms and effects, acute and delayed	On contact acrinathrin may cause feelings of burning, tingling or numbness in exposed areas (paraesthesia), which is harmless but can be quite painful, especially in the eye. The effect may result from splash, aerosol or transfer from contaminated gloves. It is

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enhanced by sweating, water and sunshine. This effect is transient, usually lasting up to 24 hours, but may in exceptional cases last longer. It may be considered as a warning that overexposure has occurred and that work practice should be reviewed. Persons with asthma may be more susceptible.

If swallowed, **acrinathrin** may produce non-specific symptoms (e.g. nausea, vomiting, diarrhoea). Large doses may produce disturbance of the central nervous system (e.g. itching, tremors, convulsions).

Acrinathrin

Acute toxicity	The substance is harmful by inhalation. It is considered as less harmful by ingestion and skin contact. The acute toxicity is measured as:
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: 1.6 mg/l/4 h
Skin corrosion/irritation	Not irritating to skin (method OECD 404). B.o.a.d.t.c.c.a.n.m.
Serious eye damage/irritation	Not irritating to eyes (method OECD 405). B.o.a.d.t.c.c.a.n.m.
Respiratory or skin sensitisation ...	Not sensitising (method FIFRA 81.06). B.o.a.d.t.c.c.a.n.m.
Germ cell mutagenicity	Acrinathrin induced reproducible chromosomal aberrations in CHO cells in the presence of S-9 mix at a concentration of 162.4 µg/ml (method OECD 473). As acrinathrin was clastogenic <i>in vitro</i> (in presence of S-9 only) but not <i>in vivo</i> , there is theoretically no need to classify acrinathrin for mutagenicity. B.o.a.d.t.c.c.a.n.m.
Carcinogenicity	Acrinathrin is a carcinogen in rats as it caused development of tumours in the ovary (granulosa-thecal cell benign and malignant tumours) and to a lesser extent the skin (squamous cell papilloma). No carcinogenic effect was observed in mice. It is not clear if the classification criteria are met.
Reproductive toxicity	There were no adverse effects towards reproduction or development at non parental toxic dose-levels (method OECD 414 and 416). B.o.a.d.t.c.c.a.n.m.
STOT – single exposure	Single exposure can cause paraesthesia, see above. B.o.a.d.t.c.c.a.n.m.
STOT – repeated exposure	Target organs: skin, nervous system There is a large range of neurovegetative effects on respiration, salivation, thermoregulation and digestive tract in rats and mice (dogs showing only digestive reactions). Changes in activity and sometimes gait, together with paraesthesia-induced skin lesions, are other neurotoxic effects in rodents. LOEL: approx. 9 mg/kg bw/day in a 90-day oral study with rats (method B26, Dir. 94/79/EEC). The skin lesions and other effects found at this level do not constitute effects that warrant classification. B.o.a.d.t.c.c.a.n.m.

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Diethyl phthalate

Reproductive toxicity

Diethyl phthalate was found to cause reduced litter size at high concentrations in a study with mice. Other studies have not confirmed this effect.

Diethyl phthalate was found to cause malformations in the offspring of rats after peritoneal injection. However, this is not considered to be a conceivable route of exposure for humans. Oral exposure did not cause the same effect.

B.o.a.d.t.c.c.a.n.m.

SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity**

Acrinathrin is highly toxic to fish, aquatic invertebrates, aquatic life stages of amphibians and insects. It is not considered as harmful to birds and soil micro- and macro-organisms. It has not been possible to reach a concentration harmful to green algae in water.

The measured ecotoxicity of the product is:

- Fish	Rainbow trout (<i>Oncorhynchus mykiss</i>)	96-h LC ₅₀ : 1.7 mg/l
- Invertebrates	Daphnids (<i>Daphnia magna</i>)	48-h LC ₅₀ : 3.7 µg/l
- Algae	Green algae (<i>Scenedesmus subspicatus</i>)	EC ₅₀ : > 1000 mg/l
- Insects	Bees	48-h LC ₅₀ , topical: 2 µg/bee 48-h LC ₅₀ , oral: 2 - 12 µg/bee

12.2. **Persistence and degradability**

Acrinathrin is not readily biodegradable. However, it undergoes degradation in the environment and in waste water treatment plants. Primary degradation half-lives vary from a few weeks to several months in different soil types and depending on circumstances.

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

12.3. **Bioaccumulative potential**

See section 9 for octanol-water partition coefficient.

Acrinathrin has a potential to bioaccumulate. The Bioconcentration Factor (BCF) was measured to be 538 in carp. However, the risk of bioaccumulation is low, because the substance has a very low solubility in water and is rapidly removed from the water phase. Therefore, bioavailability is low. Furthermore, the substance is rapidly metabolised.

12.4. **Mobility in soil**

Acrinathrin is not mobile in soil. It is strongly absorbed to soil particles. There is no risk of leaching.

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.

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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 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 Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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. (acrinathrin)
- 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 is not transported in bulk tankers.

♣ SECTION 15: REGULATORY INFORMATION

- 15.1. **Safety, health and environmental regulations/legislation specific for the substance or mixture** Seveso category in Annex I, part 2, to Dir. 96/82/EC: dangerous for the environment.
- All ingredients in this product 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 to the SDS	Minor corrections only.
List of abbreviations	<p>ACGIH American Conference of Governmental Industrial Hygienists</p> <p>AIHA American Industrial Hygiene Association</p> <p>B.o.a.d.t.c.a.n.m.: Based on available data, the classification criteria are not met.</p> <p>CAS Chemical Abstracts Service</p> <p>CHO Chinese Hamster Ovary cells</p> <p>CLP Classification, Labelling and Packaging; refers to EU regulation 1272/2008 as amended</p> <p>Dir. Directive</p> <p>DNEL Derived No Effect Level</p> <p>DPD Dangerous Preparation Directive; refers to Dir. 1999/45/EC as amended</p> <p>DSD Dangerous Substance Directive; refers to Dir. 67/548/EEC as amended</p> <p>EC European Community</p> <p>EC₅₀ 50% Effect Concentration</p> <p>EINECS European Inventory of Existing Commercial Chemical Substances</p> <p>EW Emulsion, oil in water</p> <p>FIFRA Federal Insecticide, Fungicide and Rodenticide Act</p> <p>GHS Globally Harmonized classification and labelling System of chemicals, Third revised edition 2009</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>N.o.s. Not otherwise specified</p> <p>OECD Organisation for Economic Cooperation and Development</p> <p>OSHA Occupational Safety and Health Administration</p> <p>PBT Persistent, Bioaccumulative, Toxic</p> <p>PE Polyethylene</p> <p>PEL Personal Exposure Limit</p> <p>PNEC Predicted No Effect Concentration</p> <p>Reg. Regulation</p> <p>R-pharse Risk phrase</p> <p>S-9 Post-mitochondrial fraction prepared from the livers of rodents used for metabolic activation</p> <p>SDS Safety Data Sheet</p> <p>SP Safety Precaution</p> <p>S-pharse Safety phrase</p> <p>STOT Specific Target Organ Toxicity</p> <p>TLV Threshold Limit Value</p> <p>TWA Time Weighted Average</p> <p>vPvB very Persistent, very Bioaccumulative</p>

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WEEL Workplace Environmental Exposure Level
WEL Workplace Exposure Limit
WHO World Health Organisation

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	Hazards to the aquatic environment, acute: test data chronic: calculation rules
Used R-phrases	R20 Harmful by inhalation. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Used CLP hazard statements	H332 Harmful if inhaled. H400 Very toxic to aquatic life H410 Very toxic to aquatic life with long lasting effects. 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.

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Safety, Health, Environment & Quality Department / GHB