

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## VERTIMEC 018 EC

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : VERTIMEC 018 EC

Design code : A8612AH

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

Use of the Substance/Mixture : Insecticide

#### 1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG  
Postfach  
CH-4002 Basel  
Switzerland

Telephone : +41 61 323 11 11

Telefax : +41 61 323 12 12

E-mail address : sds.ch@syngenta.com

#### 1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 3 H301: Toxic if swallowed.

Eye irritation, Category 2 H319: Causes serious eye irritation.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

Reproductive toxicity, Category 1B H360D: May damage the unborn child.

Specific target organ toxicity - repeated exposure, Category 2, Nervous system H373: May cause damage to organs through prolonged or repeated exposure.

Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.

Chronic aquatic toxicity, Category 1 H410: Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms	:	
Signal word	:	<b>Danger</b>
Hazard statements	:	<p>H301 Toxic if swallowed.                      H317 May cause an allergic skin reaction.                      H319 Causes serious eye irritation.                      H360D May damage the unborn child.                      H373 May cause damage to the nervous system through prolonged or repeated exposure.                      H410 Very toxic to aquatic life with long lasting effects.</p>
Supplemental Hazard Statements	:	EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
Precautionary statements	:	<p><b>Prevention:</b>                      P201 Obtain special instructions before use.                      P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.                      P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p><b>Response:</b>                      P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.                      P308 + P313 IF exposed or concerned: Get medical advice/ attention.</p> <p><b>Disposal:</b>                      P501 Dispose of contents/ container to an approved waste disposal plant.</p>

Hazardous components which must be listed on the label:

N-methyl-2-pyrrolidone

abamectin (combination of avermectin B1a and avermectin B1b)

### 2.3 Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)

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hexan-1-ol	111-27-3 203-852-3 01-2119487967-12	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 4; H312 Eye Irrit. 2; H319	>= 20 - < 30
N-methyl-2-pyrrolidone	872-50-4 212-828-1 01-2119472430-46	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 1B; H360D STOT SE 3; H335	>= 20 - < 30
abamectin (combination of avermectin B1a and avermectin B1b)	71751-41-2	Acute Tox. 2; H300 Acute Tox. 1; H330 Acute Tox. 3; H311 Repr. 2; H361d STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
2,6-di-tert-butyl-p-cresol	128-37-0 204-881-4 01-2119555270-46	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.  
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.  
Do NOT induce vomiting.

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

- Symptoms : Lack of coordination

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Tremors  
Dilatation of the pupil

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

Treatment : This material is believed to enhance GABA activity in animals. It is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic mectin exposure.

Toxicity can be minimized by early administration of chemical absorbents (e.g. activated charcoal).

If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged.

Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures as indicated by clinical signs, symptoms and measurements.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam  
or  
Water spray

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.

#### 6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

#### 7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
N-methyl-2-pyrrolidone	872-50-4	TWA	10 ppm 40 mg/m <sup>3</sup>	2009/161/EU

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Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	872-50-4	STEL	20 ppm 80 mg/m <sup>3</sup>	2009/161/EU

Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	872-50-4	STEL	40 ppm 160 mg/m <sup>3</sup>	CH SUVA

Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
	872-50-4	TWA	20 ppm 80 mg/m <sup>3</sup>	CH SUVA

Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
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Further information	National Institute for Occupational Safety and Health, Deutsche Forschungsgemeinschaft, For pure mineral oil spray with a boiling point of > 350°C without any additives, a guidance value of 0.2 mg/m <sup>3</sup> , measured according to the NIOSH-method, could be taken.			
white mineral oil (petroleum)	8042-47-5	TWA (inhalable dust)	5 mg/m <sup>3</sup>	CH SUVA

Further information	See 1.9.6: Lubricants and mineral oil, National Institute for Occupational Safety and Health, Deutsche Forschungsgemeinschaft, Harm to the unborn child is not to be expected when the OEL-value is respected			
abamectin (combination of avermectin B1a and avermectin B1b)	71751-41-2	TWA	0.02 mg/m <sup>3</sup>	Syngenta
2,6-di-tert-butyl-p-cresol	128-37-0	TWA (inhalable dust)	10 mg/m <sup>3</sup>	CH SUVA

Further information	No increased carcinogenic risk if the TWA value is respected (see 1.3.2.3), Carcinogenic Category 2, Harm to the unborn child is not to be expected when the OEL-value is respected			
	128-37-0	STEL (inhalable dust)	40 mg/m <sup>3</sup>	CH SUVA

Further information	No increased carcinogenic risk if the TWA value is respected (see 1.3.2.3), Carcinogenic Category 2, Harm to the unborn child is not to be expected when the OEL-value is respected			
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### 8.2 Exposure controls

#### Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.  
Where necessary, seek additional occupational hygiene advice.

#### Personal protective equipment

Eye protection : Tightly fitting safety goggles  
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Use eye protection according to EN 166.

#### Hand protection

Material : Nitrile rubber  
Break through time : > 480 min  
Glove thickness : 0.5 mm

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Remove and wash contaminated clothing before re-use.  
Wear as appropriate:  
Impervious clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
Suitable respiratory equipment:  
Respirator with a half face mask  
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when han-

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ding the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Use only respiratory protection equipment with CE-symbol including four digit test number.

Filter type : Particulates type (P)

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : yellow to red brown  
pH : 2.6 - 3.6 (20 - 25 °C)  
Concentration: 1 % w/v

Flash point : 72.5 °C(1,013.25 hPa)  
Method: DIN EN 22719

Density : 0.96 g/cm<sup>3</sup>

Viscosity  
Viscosity, dynamic : 19.0 mPa.s (20 °C)  
11.4 mPa.s (40 °C)

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

#### 9.2 Other information

Surface tension : 37.1 mN/m, 20 °C

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

See section 10.3 "Possibility of hazardous reactions".

#### 10.2 Chemical stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.



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### 10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapours.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : LD50 (Rat, male and female): 300 mg/kg  
Remarks: The toxicological data has been taken from products of similar composition.

Acute inhalation toxicity : LC50 (Rat, male and female): 7.8 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Remarks: The toxicological data has been taken from products of similar composition.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: The toxicological data has been taken from products of similar composition.

##### Components:

##### **hexan-1-ol:**

Acute oral toxicity : Acute toxicity estimate: 500 mg/kg  
Method: Converted acute toxicity point estimate  
  
LD50 Oral (Rat): 300 - 2,000 mg/kg  
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 21 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 Dermal (Rabbit): 1,000 - 2,000 mg/kg  
Assessment: The component/mixture is moderately toxic after single contact with skin.

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### **N-methyl-2-pyrrolidone:**

- Acute oral toxicity : LD50 Oral (Rat): 4,150 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 Dermal (Rat): > 5,000 mg/kg

### **abamectin (combination of avermectin B1a and avermectin B1b):**

- Acute oral toxicity : LD50 (Rat, male): 8.7 mg/kg
- Acute inhalation toxicity : LC50 (Rat, female): > 0.034 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist
- Acute dermal toxicity : LD50 (Rat, male): > 200 - < 300 mg/kg

### **2,6-di-tert-butyl-p-cresol:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
- Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

### **Skin corrosion/irritation**

#### **Product:**

Species: Rabbit

Result: No skin irritation

Remarks: The toxicological data has been taken from products of similar composition.

#### **Components:**

### **N-methyl-2-pyrrolidone:**

Species: Rabbit

Result: Irritating to skin.

### **abamectin (combination of avermectin B1a and avermectin B1b):**

Species: Rabbit

Result: No skin irritation

### **Serious eye damage/eye irritation**

#### **Product:**

Species: Rabbit

Result: irritating

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Remarks: The toxicological data has been taken from products of similar composition.

### Components:

#### **hexan-1-ol:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

#### **N-methyl-2-pyrrolidone:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

#### **abamectin (combination of avermectin B1a and avermectin B1b):**

Species: Rabbit

Result: No eye irritation

### **Respiratory or skin sensitisation**

#### Product:

Species: Guinea pig

Result: May cause sensitisation by skin contact.

Remarks: The toxicological data has been taken from products of similar composition.

### Components:

#### **abamectin (combination of avermectin B1a and avermectin B1b):**

Test Type: Local Lymph Node Assay

Species: Mouse

Result: Does not cause skin sensitisation.

### **Germ cell mutagenicity**

#### Components:

##### **hexan-1-ol:**

Germ cell mutagenicity- Assessment : In vitro tests did not show mutagenic effects, Animal testing did not show any mutagenic effects.

##### **N-methyl-2-pyrrolidone:**

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects., In vitro tests did not show mutagenic effects

##### **abamectin (combination of avermectin B1a and avermectin B1b):**

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

##### **2,6-di-tert-butyl-p-cresol:**

Germ cell mutagenicity- Assessment : In vitro tests did not show mutagenic effects, Animal testing did not show any mutagenic effects.

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### Carcinogenicity

#### Components:

##### **N-methyl-2-pyrrolidone:**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

##### **abamectin (combination of avermectin B1a and avermectin B1b):**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

### Reproductive toxicity

#### Components:

##### **hexan-1-ol:**

Reproductive toxicity - Assessment : No toxicity to reproduction

##### **N-methyl-2-pyrrolidone:**

Reproductive toxicity - Assessment : Clear evidence of adverse effects on development, based on animal experiments.

##### **abamectin (combination of avermectin B1a and avermectin B1b):**

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

##### **2,6-di-tert-butyl-p-cresol:**

Reproductive toxicity - Assessment : No toxicity to reproduction

### STOT - single exposure

#### Product:

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

#### Components:

##### **N-methyl-2-pyrrolidone:**

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

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### STOT - repeated exposure

#### Components:

#### **abamectin (combination of avermectin B1a and avermectin B1b):**

Target Organs: Nervous system

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.13 mg/l  
Exposure time: 96 h  
Remarks: Based on test results obtained with similar product.
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.029 mg/l  
Exposure time: 48 h  
Remarks: Based on test results obtained with similar product.
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 82 mg/l  
Exposure time: 72 h  
Remarks: Based on test results obtained with similar product.

#### **Ecotoxicology Assessment**

- Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components.

#### Components:

##### **hexan-1-ol:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10 - 100 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC0 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 24 h
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 10 - 100 mg/l
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 1 - 10 mg/l  
Exposure time: 21 d

#### **Ecotoxicology Assessment**

- Acute aquatic toxicity : This product has no known ecotoxicological effects.

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### **N-methyl-2-pyrrolidone:**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l  
Exposure time: 24 h
- Toxicity to algae : NOEC (Desmodesmus subspicatus (green algae)): 125 mg/l  
Exposure time: 72 h
- EC50 (Desmodesmus subspicatus (green algae)): 600 mg/l  
Exposure time: 72 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : 12.5 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

### **abamectin (combination of avermectin B1a and avermectin B1b):**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.7 µg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 0.12 µg/l  
Exposure time: 48 h
- EC50 (Americamysis bahia (Mysid shrimp)): 0.022 µg/l  
Exposure time: 96 h
- Toxicity to algae : ErC50 (Navicula pelliculosa (Freshwater diatom)): > 1 mg/l  
Exposure time: 96 h
- NOEC (Navicula pelliculosa (Freshwater diatom)): 0.4 mg/l  
End point: Growth rate  
Exposure time: 96 h
- M-Factor (Acute aquatic toxicity) : 10,000
- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h
- Toxicity to fish (Chronic toxicity) : NOEC: 6.1 µg/l  
Exposure time: 28 d  
Species: Cyprinus carpio (Carp)
- NOEC: 0.52 µg/l  
Exposure time: 72 d  
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.01 µg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- NOEC: 0.0035 µg/l  
Exposure time: 28 d

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Species: *Americamysis bahia* (Mysid shrimp)

M-Factor (Chronic aquatic toxicity) : 10,000

### 2,6-di-tert-butyl-p-cresol:

Toxicity to fish : LC0 (*Danio rerio* (zebra fish)): 0.57 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 0.61 mg/l  
Exposure time: 48 h

Toxicity to algae : IC50 (*Desmodesmus subspicatus* (green algae)): 0.4 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Bacteria): > 10,000 mg/l  
Exposure time: 3 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.316 mg/l  
Exposure time: 21 d  
Species: *Daphnia magna* (Water flea)

## 12.2 Persistence and degradability

### Components:

#### hexan-1-ol:

Biodegradability : Result: Readily biodegradable.

#### N-methyl-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 73 %  
Exposure time: 28 d

#### abamectin (combination of avermectin B1a and avermectin B1b):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 1.7 d  
Remarks: Product is not persistent.

## 12.3 Bioaccumulative potential

### Components:

#### abamectin (combination of avermectin B1a and avermectin B1b):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 4.4

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### 12.4 Mobility in soil

#### Components:

##### **abamectin (combination of avermectin B1a and avermectin B1b):**

Distribution among environmental compartments : Remarks: Slightly mobile in soils

Stability in soil : Percentage dissipation: 50 % (DT50: 12 - 52 d)  
Remarks: Product is not persistent.

### 12.5 Results of PBT and vPvB assessment

#### Product:

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

#### Components:

##### **hexan-1-ol:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

##### **abamectin (combination of avermectin B1a and avermectin B1b):**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

##### **2,6-di-tert-butyl-p-cresol:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT)..

### 12.6 Other adverse effects

#### Components:

##### **hexan-1-ol:**

Additional ecological information : No data available

##### **N-methyl-2-pyrrolidone:**

Additional ecological information : No data available

##### **abamectin (combination of avermectin B1a and avermectin B1b):**

Additional ecological information : No data available



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### 2,6-di-tert-butyl-p-cresol:

Additional ecological information : No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.  
Triple rinse containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

## SECTION 14: Transport information

### 14.1 UN number

ADN : UN 2902  
ADR : UN 2902  
RID : UN 2902  
IMDG : UN 2902  
IATA : UN 2902

### 14.2 UN proper shipping name

ADN : PESTICIDE, LIQUID, TOXIC, N.O.S. (ABAMECTIN)  
ADR : PESTICIDE, LIQUID, TOXIC, N.O.S. (ABAMECTIN)  
RID : PESTICIDE, LIQUID, TOXIC, N.O.S. (ABAMECTIN)  
IMDG : PESTICIDE, LIQUID, TOXIC, N.O.S. (ABAMECTIN)  
IATA : Pesticide, liquid, toxic, n.o.s. (ABAMECTIN)

### 14.3 Transport hazard class(es)

ADN : 6.1  
ADR : 6.1

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**RID** : 6.1  
**IMDG** : 6.1  
**IATA** : 6.1

### 14.4 Packing group

#### ADN

Packing group : III  
Classification Code : T6  
Hazard Identification Number : 60  
Labels : 6.1

#### ADR

Packing group : III  
Classification Code : T6  
Hazard Identification Number : 60  
Labels : 6.1  
Tunnel restriction code : (E)

#### RID

Packing group : III  
Classification Code : T6  
Hazard Identification Number : 60  
Labels : 6.1

#### IMDG

Packing group : III  
Labels : 6.1  
EmS Code : F-A, S-A

#### IATA (Cargo)

Packing instruction (cargo aircraft) : 663  
Packing instruction (LQ) : Y642  
Packing group : III  
Labels : Toxic

#### IATA (Passenger)

Packing instruction (passenger aircraft) : 655  
Packing instruction (LQ) : Y642  
Packing group : III  
Labels : Toxic

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : yes

#### ADR

Environmentally hazardous : yes

#### RID

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes

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### 14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : N-methyl-2-pyrrolidone

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
H2	ACUTE TOXIC	50 t	200 t
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations : Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Maternity Protection Ordinance (SR 822.111.52): Pregnant women and nursing mothers are only allowed to come in contact or get exposed to this product at their place of work, if it is established on the basis of a risk assessment by an expert, that in the context of the activities and the protective measures taken, exposure leads to no harm of mother and child.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Youth Employment Protection Regulation (ArGV 5, SR 822 115): Adolescents up to completion of their 18th year are only allowed to come in contact or get exposed to this product at their place of work if the Federal Office for Professional Education and Technology (BBT) or the State Secretariat for Eco-

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conomic Affairs (SECO ) has granted an exemption.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

## SECTION 16: Other information

### Full text of H-Statements

H226	:	Flammable liquid and vapour.
H300	:	Fatal if swallowed.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H335	:	May cause respiratory irritation.
H360D	:	May damage the unborn child.
H361d	:	Suspected of damaging the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal

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Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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