



Dynamec®

GROUP 6 INSECTICIDE



DYNAMEC® is an emulsifiable concentrate containing 18g/litre abamectin (1.84% w/w) with cyclohexanol.

For control of two-spotted spider mite, Western Flower Thrips and leaf miner (*Liriomyza spp*) in protected ornamental plant production.

For the control of two-spotted spider mite and leaf miner (*Liriomyza brylloanae*), Thrips spp including Western Flower Thrips in protected tomatoes.

For the control of two-spotted spider mite and Thrips spp including Western Flower Thrips in protected strawberries, aubergine and peppers.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work. (UK only)

In case of toxic or transport emergency ring +44 (0)1484 538444 any time

Approval Holder and UK Marketing Company

Syngenta UK Ltd, CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE
Tel: Cambridge (01223) 883400

Ireland Marketing Company

Syngenta Ireland Limited, Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland, Tel: (051) 377205

PROTECT FROM FROST

1 Litre

This product label is compliant with the CPA Voluntary Initiative (VI) guidance (UK only)



DYNAMEC®

An emulsifiable concentrate containing 18g/litre abamectin (1.84% w/w) with cyclohexanol.

Warning

Harmful if swallowed.

Causes serious eye irritation.

May cause damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.

Do not breathe dust/fume/gas/mist/vapours/spray.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Get medical advice if you feel unwell.

Collect spillage.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for triple rinsed clean containers which can be disposed of as non-hazardous waste.

Repeated exposure may cause skin dryness or cracking.

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).

To avoid risks to human health and the environment comply with the instructions for use.

MAPP 18316 PCS No. 04438

UFI: XNT4-HORE-Q00E-18J2



IMPORTANT INFORMATION

FOR USE ONLY AS A HORTICULTURAL ACARICIDE/INSECTICIDE.

Crops	Maximum individual dose	Maximum no. applications	Latest time of application
Aubergine (permanent protection with full enclosure)	See Other specific restrictions ¹⁾	3	3 days pre harvest
Tomato (permanent protection with full enclosure)	See Other specific restrictions ¹⁾	3	3 days pre harvest
Pepper and chilli (permanent protection with full enclosure)	See Other specific restrictions ¹⁾	3	3 days pre harvest
Strawberry (permanent protection with full enclosure)	See Other specific restrictions ¹⁾	3	3 days pre harvest
Ornamental plant production (permanent protection with full enclosure)	See Other specific restrictions ¹⁾	4	-

Other specific restrictions:

¹⁾ The maximum concentration must not exceed 50 ml product per 100 litres water.

DO NOT TREAT protected tomatoes which are in flower or have fruit set between 1 November and the end of February.

DO NOT TREAT cherry tomatoes.

KEEP UNPROTECTED PERSONS OUT OF TREATED AREA until the spray has dried.

Treatment must only be made under 'permanent protection' situations which provide full enclosure (including continuous top and side barriers down to below ground level) and which are present and maintained over a number of years.

Reasonable precautions must be taken to prevent access of birds, wild mammals and honey bees to treated crops.

To minimise airborne environmental exposure, vents, doors and other openings must be closed during and after application until the applied product has fully settled.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE.

FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

Product names marked ® or ™, the ALLIANCE FRAME, the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

SAFETY PRECAUTIONS

(a) Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

Operators must wear suitable protective gloves and face protection (faceshield) when handling the concentrate. However engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection (UK only).

WASH HANDS AND EXPOSED SKIN before eating, drinking or smoking and after work.

WASH ALL PROTECTIVE CLOTHING THOROUGHLY after use, especially the insides of gloves.

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, seek medical advice immediately (show label where possible).

(b) Environmental protection

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from yards and roads.

HIGH RISK TO BEES. DO NOT apply to crops in flower or to those in which bees are actively foraging. Do not apply when flowering weeds are present.

(c) Storage and disposal

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place, under lock and key.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

RESTRICTIONS

Consult processors before using on crops destined for processing

Safety to pollinating bumble bees and use in IPM programmes

In tomato crops where bumble bees are used as pollinators, it is recommended that the bees are kept out of the crop for 24 hours after treatment with DYNAMEC®.

There is insufficient evidence to support the compatibility of DYNAMEC with biological pest-control programmes.

PESTS CONTROLLED

DYNAMEC is an emulsifiable concentrate containing 18g/litre abamectin (1.8% w/w).

For the control of two-spotted spider mite (*Tetranychus urticae* - adults and immature stages), the larval stages of leaf miners (*Liriomyza spp.*) and the nymphs of *Thrips spp.* and Western Flower Thrips (*Frankliniella occidentalis*), plus a useful reduction in adults.

DYNAMEC may be used in protected ornamental plant production and in protected tomatoes, strawberries, aubergine and peppers.

DYNAMEC is slow-acting and, although pests become immobilised soon after exposure, between 3 and 5 days may be required to achieve maximum mortality.

RESISTANCE MANAGEMENT

Two to three sequential applications of DYNAMEC may be made to target a single generation of the pest. It is advisable to alternate the sequential applications of DYNAMEC with products that have a different mode of action.

CROP SPECIFIC INFORMATION

Protected Ornamental plant production

DYNAMEC may be used to control two-spotted spider mite, leaf miner and *Thrips spp.* including Western Flower Thrips in these crops at any time of year.

Applications per crop or per season for Ornamental plant production (protected) – 4 per 12 months

Protected strawberry

DYNAMEC may be used to control control of two-spotted spider mite and *Thrips spp* including Western Flower Thrips in these crops at any time of year.

Applications per crop for protected strawberry – 3 per year

Protected tomatoes

DYNAMEC may be used to control two-spotted spider mite and leaf Miner (*Liriomyza bryionae*) and *Thrips spp* including Western Flower Thrips in tomatoes. DYNAMEC may be applied to seedling tomatoes crops which have not started to flower or set fruit, at any time of year.

Applications per crop or per season for protected tomato – 3 per year

Protected aubergine

DYNAMEC may be used to control control of two-spotted spider mite and *Thrips spp* including Western Flower Thrips in these crops at any time of year.

Applications per crop or per season for protected aubergine – 3 per year

Protected pepper

DYNAMEC may be used to control control of two-spotted spider mite and *Thrips spp* including Western Flower Thrips in these crops at any time of year.

Applications per crop or per season for protected pepper – 3 per year

Dose Rates

Two-spotted spider mite	50ml DYNAMEC per 100 litres of water
<i>Thrips spp.</i> and leaf miner	50ml DYNAMEC per 100 litres of water

DYNAMEC is not approved for use on cherry tomatoes.

Crop Safety

DYNAMEC has been tested for safety on a range of edible, flowering and ornamental crops.

The product has been shown to be safe to most plant types treated. However before using DYNAMEC on any new varieties not previously tested, it is recommended that a small area is sprayed first to be certain no phytotoxicity occurs.

On some varieties of carnations, ferns and daisies, phytotoxic reactions are observed. Therefore do NOT use DYNAMEC on carnations, ferns and *Leucantherum spp.*

Application Timing

Two spotted spider mite Apply as soon as mites are seen, preferably before leaf damage becomes apparent or 'webbing' has occurred. If required a repeat application may be made 7 days later. It is advisable not to make more than two sequential applications without changing to a product with a different mode of action.

Leaf miner Apply as soon as the first feeding marks or evidence of mines are observed and repeat every 7 days. It is good practice to rotate the use of DYNAMEC with other suitable insecticides where a persistent problem occurs.

Thrips spp.,

Western Flower Thrips Apply as soon as the first nymphs are seen in the crop. A programme of several sprays (usually 2 or 3) 7 days apart is required to achieve control. Where a persistent problem occurs, DYNAMEC treatment should be rotated with other insecticides suitable for controlling this pest.

MIXING AND SPRAYING

Half fill the spray tank with clean water. Add the required quantity of DYNAMEC to the tank and complete filling. Agitate the tank thoroughly and use immediately.

Do not leave spray liquid in the sprayer for long periods e.g. during meals or overnight.

Thoroughly wash all application equipment with water immediately after use.

Spray Volume

Thorough coverage of all plant surfaces is necessary for the best results, but avoid run-off. Syngenta do not recommend the application of DYNAMEC via low volume application systems.

MEDICAL ADVICE

Inhalation: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth.
Skin: Wash with plenty of water.
Eyes: Flush with plenty of water.

Get medical attention in all cases.

Abamectin is believed to enhance GABA activity in animals. Recommendations for medical treatment for abamectin acute toxicity:

Early signs of toxicity include muscle tremors, dilated pupils (mydriasis) and unsteadiness (ataxia). If toxicity from exposure has progressed to severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels) as indicated by clinical signs, symptoms and measurements.

In severe cases, observation should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity in patients with potentially toxic abamectin exposure e.g. barbiturates, benzodiazepines, valproic acid.

Guide to Doctors

In case of symptomatic effects, provide supportive treatment, depending upon symptomatology, to maintain life functions.

For more information, or in case of emergency ring +44 (0)1484 538444 any time

Section 6 of the Health and Safety at Work Act Additional Product Safety Information (UK only)

This section does not form part of the product label under the Plant Protection Products Regulations 1995 (UK only).

This section does not form part of the product label under Regulation (EC) No 1107/2009 (IE only).

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has 'extensions of use' approval or is otherwise permitted under the Plant Protection Products Regulations.

The information on this label is based on the best available information including data from test results.

SAFETY DATA SHEET - V8.0

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Trade name: DYNAMEC
Design code: A8612AI
Product Registration Number: MAPP 18316

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 UK Ltd
CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE

Telephone: +44 (0) 1223 883400

Telefax: +44 (0) 1223 882195

E-mail address of person responsible for the SDS: customer.services@syngenta.com

1.4 Emergency telephone number

Emergency phone No.: +44 (0) 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 - H302: Harmful if swallowed.

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

Specific target organ toxicity - single exposure, Category 3, Respiratory system - H335: May cause respiratory irritation.


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

Short-term (acute) aquatic hazard, Category 1 - H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1 - H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms		
		
Signal Word	Warning	
Hazard Statements	H302	Harmful if swallowed.
	H319	Causes serious eye irritation.
	H373	May cause damage to the nervous system through prolonged or repeated exposure.
	H410	Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
Precautionary Statements	P102	Keep out of reach of children.
	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
	P270	Do not eat, drink or smoke when using this product.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P264	Wash skin thoroughly after handling.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P337+P313	If eye irritation persists: Get medical advice/ attention.
	P314	Get medical advice/attention if you feel unwell.
	P391	Collect spillage.
	P501	Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

Hazardous components which must be listed on the label:

- cyclohexanol
- abamectin (combination of avermectin B1a and avermectin B1b) (ISO)

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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures - Hazardous Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Cyclohexanol	108-93-0 203-630-6 603-009-00-3 01-2119447488-26	Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	>= 50 - < 70
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
abamectin (combination of avermectin B1a and avermectin B1b)	71751-41-2 606-143-00-0	Acute Tox. 2; H300 Acute Tox. 1; H330 Acute Tox. 3; H311 Repr. 2; H361d STOT RE 1; H372 (Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000 specific concentration limit STOT RE 1; H372 >= 5 % STOT RE 2; H373 >= 0.5 - < 5 %	>= 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, Tremors, Dilatation of the pupil

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice: 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. FIRE-FIGHTING 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: Use 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.

Flash back possible over considerable distance.

5.3 Advice for fire-fighters

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.

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.

Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.

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). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents.

Retain and dispose of contaminated wash water.

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. No smoking.

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
Cyclohexanol	108-93-0	TWA	50 ppm 208 mg/m ³	GB EH40
propane-1,2-diol	57-55-6	TWA (particles)	10 mg/m ³	GB EH40
	57-55-6	TWA (Total vapour and particles)	150 ppm 474 mg/m ³	GB EH40
2,6-di-tert-butyl-p-cresol	128-37-0	TWA	10 mg/m ³	GB EH40
abamectin (mixture of avermectin B1a and avermectin B1b) (SU)	71751-41-2	TWA	0.02 mg/m ³	Syngenta

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m ³
	Consumers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	30 mg/m ³
	Workers	Inhalation	Long-term local effects	10 mg/m ³
2,6-di-tert-butyl-p-cresol	Workers	Inhalation	Long-term systemic effects	5.8 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	1.74 mg/m ³
	Workers	Dermal	Long-term systemic effects	8.3 mg/kg
	Consumers	Dermal	Long-term systemic effects	5 mg/kg
cyclohexanol	Workers	Inhalation	Long-term systemic effects	130 mg/m ³
	Workers	Dermal	Long-term systemic effects	3.58 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32.5 mg/m ³
	Consumers	Dermal	Long-term systemic effects	1.79 mg/kg
Consumers	Oral	Long-term systemic effects	1.79 mg/kg	

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
propane-1,2-diol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Marine sediment	57.2 mg/kg

Substance name	Environmental Compartment	Value
	Fresh water sediment	572 mg/kg
	Soil	50 mg/kg
2,6-di-tert-butyl-p-cresol	Soil	1.04 mg/kg
cyclohexanol	Fresh water	0.017 mg/l
	Marine water	0.0017 mg/l
	Fresh water sediment	0.042 mg/kg
	Soil	0.005 mg/kg

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 length: 0.5 mm

Remarks: Wear protective gloves. 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 particle filter (EN 143)

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when

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

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : pale yellow to brown

Odour : aromatic

Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flammability : No data available

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Flash point : 69 °C. Method: Pensky-Martens closed cup

Auto-ignition temperature : 320 °C

Decomposition temperature: No data available

pH : 3.5. Concentration: 1 % w/v

Viscosity, dynamic : 65 mPa.s (40 °C)

Viscosity, kinematic : No data available

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: octanol/ water: No data available

Vapour pressure : No data available

Density : 0.98 g/cm³

Relative vapour density : No data available

Particle size : No data available

9.2 Other information

Explosives : Not explosive

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

Evaporation rate : No data available

Surface tension : 41.8 mN/m, 0.1 % w/v

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:

None reasonably foreseeable.

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.

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

Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on likely routes of exposure: Ingestion, Inhalation, Skin contact, Eye contact

Acute oral toxicity:

Product:

Acute oral toxicity :

LD50 (Rat, female): 891 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity :

LC50 (Rat, male and female): > 5.04 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat, male and female): > 5,050 mg/kg
Remarks: Based on data from similar materials

Components:

cyclohexanol:
Acute oral toxicity: LD50 (Rat, male and female): 1,400 mg/kg
Acute inhalation toxicity: LC50 (Rat, male and female): > 3.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.

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

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
LD50 (Rat, male): 200 - 300 mg/kg

Acute dermal toxicity: LD50 (Rat, male): 200 - 300 mg/kg
Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation

Product:

Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Components:

cyclohexanol:
Species: Rabbit
Result: Irritating to skin.

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

Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Eye irritation
Remarks: Based on data from similar materials

Components:

cyclohexanol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

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

Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Product:

Test Type: Buehler Test
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.
Remarks: Based on data from similar materials.

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Test Type: mouse lymphoma cells

Species: Mouse
Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Reproductive toxicity - Assessment: Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Components:

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

STOT - repeated exposure

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Target Organ: Nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Components:

cyclohexanol:
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 17 mg/l
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0.953 mg/l
End point: see user defined free text
Exposure time: 21 d
Species: Daphnia (water flea)

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/aquatic plants: 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)

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.7 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Americamysis): 0.022 µg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants: 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: 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: 0.002 mg/l
Exposure time: 28 d
Species: Americamysis

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

12.2 Persistence and degradability

Components:

cyclohexanol:

Biodegradability: Result: Readily biodegradable.

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

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) (ISO):

Bioaccumulation: Remarks: Does not bioaccumulate.

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

12.4 Mobility in soil

Components:

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

Distribution among environmental compartments: Remarks: Slightly mobile in soils

Stability in soil: Dissipation time: 12 - 52 d

Percentage dissipation: 50 % (DT50)

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:

cyclohexanol:

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).

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

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).

12.6 Other adverse effects

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

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 for local recycling or waste disposal. Do not re-use empty containers.

Waste Code: uncleaned packagings 150110, packaging containing residues of or contaminated by dangerous substances

SECTION 14. TRANSPORT INFORMATION

14.1 UN number

ADN	ADR	RID	IMDG	IATA
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ABAMECTIN)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ABAMECTIN)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ABAMECTIN)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ABAMECTIN)

IATA: Environmentally hazardous substance, liquid, n.o.s. (ABAMECTIN)

14.3 Transport hazard class(es)

ADN	ADR	RID	IMDG	IATA
9	9	9	9	9

14.4 Packing group

ADN	ADR	RID
Packing group : III Classification Code : M6 Hazard Identification Number : 90 Labels : 9	Packing group : III Classification Code : M6 Hazard Identification Number : 90 Labels : 9 Tunnel restriction code : (-)	Packing group : III Classification Code : M6 Hazard Identification Number : 90 Labels : 9
IMDG	IATA (Cargo)	IATA (Passenger)
Packing group : III Labels : 9 EmS Code : F-A, S-F	Packing instruction (cargo aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Miscellaneous	Packing instruction (passenger aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Miscellaneous

14.5 Environmental hazards

ADN: Environmentally hazardous : yes

ADR: Environmentally hazardous : yes

RID: Environmentally hazardous : yes

IMDG: Marine pollutant : yes

IATA (Passenger): Environmentally hazardous: yes

IATA (Cargo): Environmentally hazardous: yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15. REGULATORY INFORMATION

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered: Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

REACH - List of substances subject to authorisation (Annex XIV): Not applicable

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

Regulation (EU) 2019/1021 on persistent organic pollutants (recast): Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:

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.

E1	ENVIRONMENTAL HAZARDS	Quantity 1 100 t	Quantity 2 200 t
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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. Use plant protection products safely. Always read the label and product information before use.

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

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

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.

H332: Harmful if inhaled.

H335: May cause respiratory irritation.

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.

H412: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard

Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Irrit. : Eye irritation

Repr. : Reproductive toxicity

Skin Irrit. : Skin irritation

STOT RE : Specific target organ toxicity - repeated exposure

STOT SE : Specific target organ toxicity - single exposure

GB EH40 : UK, EH40 WEL - Workplace Exposure Limits

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

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; IECS - 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 Organization 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 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; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Acute Tox. 4	H302
Eye Irrit. 2	H319
STOT SE 3	H335
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method

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.

SPECIMEN -
Use by 30 June 2025