

# SAFETY DATA SHEET

Date: 14 June, 2016  
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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME **Milbeknock 1EC**

SYNONYMS MILBEKNOCK EC, MILBEKNOCK 1 EC, MILBEKNOCK 1%EC, Milbemectin 1%EC, Milbemectin 1EC, MILBEKNOCK, Milbeknock, MILBEKNOCK 1% Emulsifiable Concentrate, Milbemectin 1% Emulsifiable Concentrate, Milbemectin 0.93% EC, Benknock 1EC, Koromite, Ultiflora

USE OF PRODUCT Miticide/insecticide for use in agriculture and horticulture

### COMPANY IDENTIFICATION

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## 2. HAZARDS IDENTIFICATION

### GHS CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Flammable liquid Category 3

#### Acute toxicity

Oral	Not classified
Dermal	Not classified
Inhalation	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Skin sensitization	Not classified
Target organ toxicity	
Single exposure	Category 3 (respiratory tract irritation, narcotic effects)
Aspiration toxicity	Category 1

#### Aquatic hazard

Acute	Category 1
Chronic	Category 1

### GHS LABEL ELEMENTS

#### Hazard Pictograms



Signal Word

Danger

#### Hazard Statements

H226: Flammable liquid and vapor.  
H304: May be fatal if swallowed and enters airways.  
H335: May cause respiratory irritation.  
H336: May cause drowsiness or dizziness.  
H400: Very toxic to aquatic life.  
H410: Very toxic to aquatic life with long lasting effects.

## Precautionary Statements

## Prevention

- P210: Keep away from heat/sparks/open flames/hot surfaces. -No smoking.  
 P233: Keep container tightly closed.  
 P240: Ground/bond container and receiving equipment.  
 P241: Use explosion-proof electrical/ventilating/lighting equipment.  
 P242: Use only non-sparking tools.  
 P243: Take precautionary measures against static discharge.  
 P261: Avoid breathing mist/vapors/spray.  
 P271: Use only outdoors or in a well-ventilated area.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

## Response

- P301+P310+P331:  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.  
 P303+P361+P353:  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+340:  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P312: Call a POISON CENTER or doctor physician if you feel unwell.  
 P370+P378:  
 In case of fire: Use Water fog/dry chemical/foam/CO<sub>2</sub> to extinguish.  
 P391: Collect spillage.

## Storage

- P403 +P405 + P233 + P235:  
 Store locked up in a well-ventilated place. Keep container tightly closed. Keep cool.

## Disposal

- P501: Dispose of contents or container in accordance with local, regional, national and international regulations.

## OTHER HAZARDS

This product can accumulate static charges which may cause an ignition. This product can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Toxic to bees.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	% w/w	(w/v)	CAS No.
Milbemectin (*)	1	(9.3g/L)	51570-36-6
Inert ingredients(**)	99	(—)	-

\* A mixture of Milbemycine A3 (M.A<sub>3</sub>) and Milbemycine A4 (M.A<sub>4</sub>) in the ratio of 3 to 7.

M.A<sub>3</sub>: (10E,14E,16E,22Z)-(1R,4S,5'S,6R,6'R,8R,13R,20R,21R,24S)-21,24-dihydroxy-5',6',11,13,22-pentamethyl-3,7,19-trioxatetracyclo[15.6.1.1<sup>4,8</sup>.0<sup>20,24</sup>]pentacosa-10,14,16,22-tetraene-6-spiro-2'-tetrahydropyran-2-one

M.A<sub>4</sub>:(10E,14E,16E,22Z)-(1R,4S,5'S,6R,6'R,8R,13R,20R,21R,24S)-6'-ethyl-21,24-dihydroxy-5',11,13,22-tetramethyl-3,7,19-trioxatetracyclo[15.6.1.1<sup>4,8</sup>.0<sup>20,24</sup>]pentacosa-10,14,16,22-tetraene-6-spiro-2'-tetrahydropyran-2-one

CAS No.: M.A<sub>3</sub>; 51596-10-2, M.A<sub>4</sub>; 51596-11-3

Molecular Formula: M.A<sub>3</sub>; C<sub>31</sub>H<sub>44</sub>O<sub>7</sub>, M.A<sub>4</sub>; C<sub>32</sub>H<sub>46</sub>O<sub>7</sub>

\*\*Contains Cyclohexanone and Aromatic hydrocarbons.

Occupational exposure limits are, if available, listed in Section 8.

#### **4. FIRST AID MEASURES**

##### **INGESTION**

Rinse mouth with water. Call a physician immediately. Do not induce vomiting. If vomiting occurs, have person lean forward. Never give anything by mouth to an unconscious or convulsing person.

##### **INHALATION**

If you feel unwell, move to fresh air immediately. Call a physician. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

##### **SKIN CONTACT**

Immediately remove contaminated clothing and shoes. Flush skin and clean off with large amounts of water. Get medical attention if symptoms develop.

##### **EYE CONTACT**

Immediately flush eyes with plenty of water. Part eyelids with fingers to assure complete flushing. Check for and remove contact lenses if easily possible. Get medical attention if irritation persists.

#### **5. FIREFIGHTING MEASURES**

##### **SUITABLE EXTINGUISHING MEDIA**

Foam, dry chemical, CO<sub>2</sub>, water fog, sand.

##### **UNSUITABLE EXTINGUISHING MEDIA**

Water jet

##### **GENERAL HAZARD**

Flammable liquid at temperatures above its flashpoint may form explosive vapor-air mixtures. The vapor is heavier than air and may travel along the ground; distant ignition possible. Emits toxic fumes in fire condition.

##### **HAZARDOUS COMBUSTION PRODUCTS**

None identified.

##### **FIREFIGHTING INSTRUCTIONS**

Keep unnecessary and unprotected personnel away. Shut off supply if possible. Remove containers to safe place if possible. Keep containers and surroundings cool by spraying with water. Fight fire from an upwind position.

##### **FIREFIGHTING EQUIPMENT**

Respiratory and eye protection is required for firefighting personnel.

Full protective equipment and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires.

#### **6. ACCIDENTAL RELEASE MEASURES**

##### **PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES**

Warn and evacuate in the neighborhood as necessary. Keep unnecessary and unprotected personnel away. Wear appropriate personal protective equipment as specified in Section 8. Remove all sources of ignition. Stop leak if possible without personal risk.

##### **ENVIRONMENTAL PRECAUTIONS**

Do not let this product enter the environment.

##### **METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**

Use non-sparking tools and equipment.

Absorb or cover with dry earth, sand or other non-combustible material and transfer to sealable containers. Large spills: Dike far ahead of liquid spill for later disposal.

Collect the water-insoluble material spilled onto the water surface using the absorbent.

## 7. HANDLING AND STORAGE

### HANDLING

#### Technical Measures

Use only with adequate ventilation.

Where there may be potential of fire or explosion hazard, use explosion-proof electrical equipment and take precautions against build-up of electrostatic charges.

Wear appropriate personal protective equipment as specified in Section 8. Keep away from heat, sparks, open flames, hot surfaces and all sources of ignition.

#### Precautions

Handle with care. Do not breathe mist. Avoid contact with eyes, skin and clothing.

Take precautionary measures against static discharge.

#### Advice on general occupational hygiene

Provide hand and eye wash station near work area. Wash hands thoroughly after use. Take off contaminated protective equipment before entering rest areas. Do not eat, drink or smoke when using this product.

### STORAGE

#### Storage Conditions

Keep away from heat, flame and all sources of ignition. Store in a cool, dark and well-ventilated area. Keep container tightly closed and sealed until ready for use.

Do not contaminate other pesticides, fertilizers, water, foodstuffs or feed by storage and disposal.

#### Packaging Materials

Metal or plastic containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMIT VALUES

#### [Cyclohexanone]

ACGIH TLV: 20ppm (TWA, 8Hr)

: 50ppm (STEL, 15min)

BEIs: 80 mg/L (ESW), 8 mg/L (EOS)

#### [Aromatic hydrocarbons]

ACGIH: 5 mg/m<sup>3</sup> (TWA, as mineral oil mist)

### ENGINEERING CONTROLS

Provide general ventilation. Using closed system or local exhaust ventilation is recommended.

Provide safety shower and eye wash station near work area.

### PERSONAL PROTECTION

Eye/face protection:

Safety glasses, goggles, face shield.

Skin Protection:

Hand protection:

Chemical resistant (impermeability) gloves.

Body Protection:

Safety helmet, protective clothing, safety boots.

Respiratory protection:

Chemical cartridge respirator (Organic vapor)

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Yellowish tint clear liquid.

Odor:

Estery odor (80 sweetness)

pH (23.5°C, 1%):

3.7

Initial boiling point and boiling range:

Not available

Flash point (733.7 mmHg):

47°C [Category 3]

Evaporation rate:

Not available

Density (20°C):

0.93 g/mL

Solubilities:

Not available

Viscosity:	7.5 cps (20.0°C), 5.3 cps (40.0°C)
Auto-ignition temperature:	355°C
Explosive property:	Not explosive.
Minimum Ignition energy:	Not available.
Oxidizing properties:	Not an oxidizer.

## 10. STABILITY AND REACTIVITY

### CHEMICAL STABILITY

Stable under normal conditions.

### HAZARDOUS REACTIONS

Hazardous polymerization will not occur.

### CONDITIONS TO AVOID

Exposure to heat, ignition sources.

### INCOMPATIBLE MATERIALS

Strong alkali.

### HAZARDOUS DECOMPOSITION PRODUCTS

None identified.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Oral:	Rat (male)	LD <sub>50</sub>	5200 mg/kg	
	Rat (female)	LD <sub>50</sub>	5300 mg/kg	[Not classified]
Dermal:	Rat	LD <sub>50</sub>	>2000 mg/kg	[Not classified]
	Inhalation:	Rat	LC <sub>50</sub>	>6.75 mg/L/4hr

### Skin Corrosion/Irritation

Rabbit	Slight Irritant	[Not classified]
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### Serious Eye Damage/Irritation

Rabbit	Mild irritant	[Not classified]
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### Respiratory Sensitization

Not available [Classification not possible]

### Skin Sensitization

Guinea pig	Not a skin sensitizer.	[Not classified]
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### Germ Cell Mutagenicity

Not available. [Classification not possible]

### Carcinogenicity

Not available. [Classification not possible]

### Reproductive Toxicity

Not available. [Classification not possible]

### Specific Target Organ Toxicity

Single Exposure:	Contains Aromatic hydrocarbons (category 3 respiratory tract irritation, narcotic effects).	[Category 3]
Repeated Exposure:	Not available.	[Classification not possible]

### Aspiration Hazard

Contains Organic solvent (category 1, >10%) and the calculated kinetic viscosity of this product is less than 20.5 mm<sup>2</sup>/s at 40°C.  
[Category 1]

**12. ECOLOGICAL INFORMATION****HAZARDOUS TO THE AQUATIC ENVIRONMENT**Acute: Classified as category 1 based on the EC<sub>50</sub> for *Daphnia magna*.

[Category 1]

Chronic: Contains Milbemectin (Category 1, M=100)

[Category 1]

**Ecotoxicity**

Rainbow trout	LC <sub>50</sub> (96hr)	0.45 mg/L
	NOEC	0.18 mg/L

<i>Daphnia magna</i>	EC <sub>50</sub> (48hr)	0.42 mg/L
	NOEC	0.17 mg/L

Algae	ErC <sub>50</sub> (120hr)	>89 mg/L
	NOEC	5.7 mg/L

**[Milbemectin]**

<i>Daphnia magna</i>	EC <sub>50</sub> (48hr)	0.01 mg/L
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**HAZARDOUS TO THE OZONE LAYER**This product does not contain  $\geq 0.1\%$  of at least one ingredient listed in the Annexes to the Montreal Protocol.

[Classification not possible]

**13. DISPOSAL CONSIDERATIONS****WASTE FROM RESIDUES**

Waste must be disposed of in accordance with federal, state, local, national and international regulations.

**CONTAMINATED PACKAGING**

Empty the container completely before disposal.

**14. TRANSPORT INFORMATION****UN**

Hazard Class:	3
UN Number:	UN1993
Shipping Name:	FLAMMABLE LIQUID N.O.S. (Cyclohexanone and Aromatic hydrocarbons mixture)
Packing Group:	III
Marine Pollutant:	Yes

**SPECIAL PRECAUTIONS FOR TRANSPORT**

Make sure that the containers have no puncture or leakage. Avoid rough handling and dropping. Prevent collapse of cargo piles.

**15. REGULATORY INFORMATION**

This product is a pesticide.

Responsibility for compliance with applicable laws and regulations is with the user.

**16. OTHER INFORMATION**

References: In-house data

To the best of our knowledge, the information contained herein is accurate.

However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.