



**CERTIFICATE OF REGISTRATION OF PESTICIDE/VECTOR  
REPELLENT**

**ISSUED UNDER SECTION 8 OF THE CONTROL OF VECTORS AND PESTICIDES  
ACT 1998**

**Registration Number : SINENVI-SusCN/041/0195**

**This is to certify that**


Name of Registrant : BASF SINGAPORE PTE LTD  
Address of Principal Place of Business : 7 TEMASEK BOULEVARD  
#35-01 SUNTEC TOWER ONE  
SINGAPORE 038987  
Company/Business Certificate No : 198902034E

has been granted registration of the following pesticide for advertisement, sale and supply in Singapore.

Product Name : TENOPA SC  
Active Ingredient : ALPHA-CYPERMETHRIN  
FLUFENOXURON  
Content : ALPHA-CYPERMETHRIN 2.94% W/W  
FLUFENOXURON 2.94% W/W  
Formulation : SUSPENSION CONCENTRATE  
Manufacturer : SOREX LIMITED  
ST. MICHAEL'S INDUSTRIAL ESTATE  
WIDNES, CHESHIRE WA8 8TJ  
UNITED KINGDOM

The Certificate of Registration is issued subject to the conditions stated overleaf.

22 May 2001  
Date of Registration

  
+ Commissioner of Public Health  
Registration Authority

BASF Risalah Data Keselamatan (BASF Safety data sheet)  
Tarikh / Disemak (Date / Revised): 12.06.2015  
Produk (Product): **TENOPA SC**

Versi (Version): 2.1

(30261767/SDS\_GEN\_MY/MS)

Tarikh cetakan (Date of print) 13.06.2015

## 1. Identification of the chemical and of the supplier

### TENOPA SC

Use: biocide

Company:

BASF (Malaysia) Sdn Bhd  
No 2, Jalan Astaka U8/87  
Bukit Jelutong, Seksyen U8  
40150 Shah Alam, Selangor, MALAYSIA  
Telephone: +60 3 5628-3888  
Telefax number: +60 3 5628-3777

Emergency information:

International emergency number:  
Telephone: +49 180 2273-112

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## 2. Hazard identification

Classification of the substance and mixture:

Reproductive toxicity: Cat. Additional category for effects on or via lactation.

Hazardous to the aquatic environment - acute: Cat. 1

Hazardous to the aquatic environment - chronic: Cat. 1

Label elements and precautionary statement:

Pictogram:



Signal Word:

Warning

Hazard Statement:

May cause harm to breast-fed children. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary Statement:

If medical advice is needed, have product container or label at hand. Keep out of reach of children.

Precautionary Statements (Prevention):

Do not breathe dust or mist. Do not handle until all safety precautions have been read and understood. Avoid contact during pregnancy/while nursing. Do not eat, drink or smoke when using this product. Wash contaminated body parts thoroughly after handling.

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**Precautionary Statements (Response):**

Collect spillage. IF exposed or concerned: Call a POISON CENTER or doctor/physician.

**Precautionary Statements (Disposal):**

Dispose of contents/container to hazardous or special waste collection point.

**Other hazards which do not result in classification:**

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

May cause paraesthesia. ALPHA-CYPERMETHRIN

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### 3. Composition/information on ingredients

**Chemical nature**

biocide, insecticide, suspension concentrate (SC)

**Hazardous ingredients****alpha-Cypermethrin**

Content (W/W): 2.9 %  
 CAS Number: 67375-30-8

Acute Tox.: Cat. 4 (Inhalation - dust)  
 Acute Tox.: Cat. 3 (oral)  
 STOT SE: Cat. 3 (irr. to respiratory syst.)  
 STOT RE (Nervous system): Cat. 2  
 Aquatic Acute: Cat. 1  
 Aquatic Chronic: Cat. 1

**Flufenoxuron**

Content (W/W): 2.9 %  
 CAS Number: 101463-69-8

Repr.: Cat. Add. cat. lact.  
 Aquatic Acute: Cat. 1  
 Aquatic Chronic: Cat. 1

**Tributyl phenol polyglycol ether**

Content (W/W): < 1 %  
 CAS Number: 9046-09-7

Acute Tox.: Cat. 4 (oral)  
 Eye Dam./Irrit.: Cat. 1  
 Aquatic Chronic: Cat. 2

**propane-1,2-diol**

Content (W/W): < 25 %  
 CAS Number: 57-55-6

For the classifications not written out in full in this section the full text can be found in section 16.

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## 4. First-Aid Measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth and then drink plenty of water.

Note to physician:

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible, numbness and tingling of hands and feet, lung oedema, convulsions

Note to physician:

Treatment: Symptomatic treatment (decontamination, vital functions).

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## 5. Fire-Fighting Measures

Suitable extinguishing media:

water spray, carbon dioxide, foam, dry powder

Specific hazards:

carbon monoxide, hydrogen chloride, hydrogen cyanide, carbon dioxide, nitrogen oxides, organochloric compounds, sulfur oxides

The substances/groups of substances mentioned can be released in case of fire.

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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## 6. Accidental Release Measures

Personal precautions:

Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray.

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**Environmental precautions:**

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

**Methods for cleaning up or taking up:**

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

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## 7. Handling and Storage

### Handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

**Protection against fire and explosion:**

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

### Storage

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect against moisture. Protect from direct sunlight.

**Storage stability:**

Storage duration: 36 Months

Protect from temperatures below: -10 °C

The product can crystallize below the limit temperature.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

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## 8. Exposure controls and personal protection

### Components with occupational exposure limits

No occupational exposure limits known.

### Personal protective equipment

Respiratory protection:

Respiratory protection not required.

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**Hand protection:**

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact  
(Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

**Eye protection:**

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

**Body protection:**

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

**General safety and hygiene measures:**

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

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## 9. Physical and Chemical Properties

Form:	suspension	
Colour:	white	
Odour:	slight odour	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	approx. 6 - 8 (20 °C) (measured with the undiluted substance)	
Melting point:	The product has not been tested.	
Boiling point:	approx. 100 °C Information applies to the solvent.	
Flash point:	Non-flammable.	(Directive 92/69/EEC, A.9)
Evaporation rate:	not applicable	
Flammability (solid/gas):	No dangerous quantities of flammable gases will be produced by contact with water.	(Directive 92/69/EEC, A.12)
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	

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**Upper explosion limit:**

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

**Ignition temperature:** 500 °C (Directive 92/69/EEC, A.15)

**Thermal decomposition:** 195 °C , 30 kJ/kg (DSC (OECD 113))

400 °C , > 120 kJ/kg (DSC (OECD 113))

**Explosion hazard:** not explosive (Directive 92/69/EEC, A.14)

**Fire promoting properties:** not fire-propagating (UN Test O.2 (oxidizing liquids))

**Vapour pressure:** approx. 23 hPa  
(20 °C)  
Information applies to the solvent.

**Density:** approx. 1.03 g/cm<sup>3</sup>  
(20 °C)

**Relative vapour density (air):**  
not applicable

**Solubility in water:** dispersible  
**Partitioning coefficient n-octanol/water (log Pow):**  
not applicable

**Viscosity, dynamic:** approx. 100 mPa.s  
(20 °C, 100 1/s)

**Other Information:**

If necessary, information on other physical and chemical parameters is indicated in this section.

**10. Stability and Reactivity****Conditions to avoid:**

See MSDS section 7 - Handling and storage.

**Thermal decomposition:** 195 °C, 30 kJ/kg (DSC (OECD 113))

**Thermal decomposition:** 400 °C, > 120 kJ/kg (DSC (OECD 113))

**Substances to avoid:**

strong bases, strong acids, strong oxidizing agents

**Corrosion to metals:** mild steel  
tin

**Hazardous reactions:**

No hazardous reactions if stored and handled as prescribed/indicated.

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Hazardous decomposition products:  
No hazardous decomposition products if stored and handled as prescribed/indicated.

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## 11. Toxicological Information

### Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): 4,478 mg/kg

LC50 rat (by inhalation): > 2.37 mg/l 4 h

Highest concentration available for testing. No mortality was observed. An aerosol was tested.

LD50 rat (dermal): > 2,000 mg/kg

No mortality was observed.

### Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

Skin corrosion/irritation rabbit:

Serious eye damage/irritation rabbit:

### Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

modified Buehler test guinea pig:

### Germ cell mutagenicity

Assessment of mutagenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

### Carcinogenicity

Assessment of carcinogenicity:



The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

### **Reproductive toxicity**

Assessment of reproduction toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

### **Developmental toxicity**

Assessment of teratogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Flufenoxuron

Assessment of teratogenicity:

May cause harm to breastfed babies.

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The product contains: alpha-Cypermethrin

May cause paraesthesia.

### **Repeated dose toxicity and Specific target organ toxicity (repeated exposure)**

Assessment of repeated dose toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Alpha-Cypermethrin

Assessment of repeated dose toxicity:

Repeated oral exposure may affect certain organs. Damages the peripheral nerve system.

Information on: Flufenoxuron

Assessment of repeated dose toxicity:

The substance may cause the formation of methemoglobin after repeated uptake of high doses.

### **Other relevant toxicity information**

Misuse can be harmful to health.

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## **12. Ecological Information**

### **Ecotoxicity**

Assessment of aquatic toxicity:

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. The product has not been tested. The statement has been derived from the properties of the individual components.

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Information on: Alpha-Cypermethrin

Toxicity to fish:

LC50 (96 h) 0.00093 mg/l, Pimephales promelas (OPP 72-1 (EPA-Guideline), Flow through.)

No observed effect concentration (34 d) 0.00003 mg/l, Pimephales promelas

Information on: Flufenoxuron

Toxicity to fish:

LC50 (96 h) > 0.0049 mg/l, Oncorhynchus mykiss (Flow through.)

LC50 (96 h) > 0.00519 mg/l, Brachydanio rerio (OPP 72-1 (EPA-Guideline), Flow through.)

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Information on: Alpha-Cypermethrin

Aquatic invertebrates:

EC50 (48 h) 0.000013 mg/l 12,6 ng/L, Chironomus riparius (OECD Guideline 202, part 1, static)

Information on: Flufenoxuron

Aquatic invertebrates:

EC50 (48 h) approx. 0.000051 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

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Information on: Alpha-Cypermethrin

Aquatic plants:

EC50 (72 h) > 1 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201, static)

No observed effect concentration (7 d) >= 1,39 µg/L (growth rate), Lemna gibba (OECD guideline 221, static)

Information on: Flufenoxuron

Aquatic plants:

EC50 (96 h) > 0.004 mg/l, Selenastrum capricornutum

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Information on: Alpha-Cypermethrin

Chronic toxicity to fish:

No observed effect concentration (34 d) 0,03 µg/L, Pimephales promelas (OPP 72-4 (EPA-Guideline), Flow through.)

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Information on: Alpha-Cypermethrin

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (28 d), 0,024 µg/L, Chironomus riparius (OECD 219, static)

No observed effect concentration (21 d), 0,03 µg/L, Daphnia magna (OPP 72-4 (EPA-Guideline), semistatic)

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## Mobility

Assessment transport between environmental compartments:

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The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Alpha-Cypermethrin

Assessment transport between environmental compartments:

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Information on: Flufenoxuron

Assessment transport between environmental compartments:

The substance will not evaporate into the atmosphere from the water surface.

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

### **Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Alpha-Cypermethrin

Information on: Flufenoxuron

Assessment biodegradation and elimination (H<sub>2</sub>O):

Not readily biodegradable (by OECD criteria).

### **Bioaccumulation potential**

Assessment bioaccumulation potential:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Alpha-Cypermethrin

Bioaccumulation potential:

Bioconcentration factor: 155 - 910 (73 d), *Cyprinus carpio* (OECD Guideline 305 C)

Information on: Flufenoxuron

Bioaccumulation potential:

Bioconcentration factor: 25,720, *Oncorhynchus mykiss*

Accumulation in organisms is expected.

### **Additional information**

Other ecotoxicological advice:

Do not discharge product into the environment without control.

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## **13. Disposal Considerations**

Must be disposed of or incinerated in accordance with local regulations.

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Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

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## 14. Transport Information

**Domestic transport:**

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains ALPHA-CYPERMETHRIN, FLUFENOXURON)

**Further information**

Hazchem Code:3Z

IERG Number:47

**Sea transport**

IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains ALPHA-CYPERMETHRIN, FLUFENOXURON)

**Air transport**

IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains ALPHA-CYPERMETHRIN, FLUFENOXURON)

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

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## 15. Regulatory Information

### Other regulations

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

## 16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
STOT SE	Specific target organ toxicity — single exposure
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Repr.	Reproductive toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.