

**MATERIAL SAFETY DATA SHEET****Product****SEMAFOR 20 ST**

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Product code : 6166

Version : 1.01

Date : 22/06/2006

Supersedes : 18/03/2005

**01 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**

PRODUCT NAME : SEMAFOR 20 ST  
Name : FMC CHEMICAL  
Address : Boulevard de la Plaine, 9/3  
1050 BRUXELLES  
BELGIQUE  
Telephone number : 00 32 2 6459584  
Telefax number : 00 32 2 6459655  
EMERGENCY TELEPHONE  
NUMBER : (\*) 00 32 14 58 45 45 (\*)  
Recommended use : Insecticide / Miticide

**02 COMPOSITION / INFORMATION ON INGREDIENTS**

PREPARATION :  
Chemical nature : Pyrethroid pesticide based on Bifenthrin  
Components contributing to the hazard : Bifenthrin (CAS : 82657-04-3, EC auto-class. : Xn; R20 - T; R25 - R43 - N; R50-53) : < 20 %  
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (CAS : 55965-84-9, EC classification : T; R23/24/25 - C; R34 - R43 - N; R50/53) : < 1 %

**03 HAZARDS IDENTIFICATION**

MOST IMPORTANT HAZARDS :  
Adverse human health effects : Harmful if swallowed  
May cause sensitization by skin contact  
Environmental effects : Very toxic to aquatic organisms  
May cause long-term adverse effects in the aquatic environment  
Physical and chemical hazards :  
- Fire or explosion : Not classified as flammable by EC criteria but may present a hazard in the event of a fire  
Burning and thermal decomposition may form toxic by-products  
Classification of the product : According to European regulations, this product is classified as :  
- HARMFUL  
- SENSITIZING  
- DANGEROUS FOR THE ENVIRONMENT

**04 FIRST AID MEASURES**

Inhalation : Move the affected person to the fresh air  
If the person feels unwell :  
Call a doctor  
Skin contact : Remove all contaminated clothing and footwear  
Wash immediately with plenty of soap and water.  
In case of redness or irritation, call a doctor  
Eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (for at least 15 minutes)  
If irritation persists, consult an eye specialist  
Ingestion : If the person is fully conscious, make him/her drink water. Never give an unconscious person anything to drink

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If the person is fully conscious, try to induce vomiting  
Call a doctor immediately

**05 FIRE-FIGHTING MEASURES**

Suitable extinguishing media :	Carbon dioxide (CO <sub>2</sub> ) Foam Powders
Not suitable extinguishing media :	Water (the product is hazardous for the environment - do not dilute it)
Specific hazards :	On heating : Toxic vapours are released
Specific fire fighting methods :	Isolate fire area. Evacuate downwind Contain the extinguishing fluids by bunding (the product is hazardous for the environment) Do not attempt to fight the fire without suitable protective equipment Do not breathe fumes
Protection of fire-fighters :	Self-contained breathing apparatus Complete protective clothing

**06 ACCIDENTAL RELEASE MEASURES**

Personal precautions :	Avoid contact with skin and eyes Do not attempt to intervene without a suitable protective equipment In case of important spillage : Only qualified personnel equipped with appropriate protective equipment may intervene
Environmental precautions :	Do not allow product to spread into the environment Contain the spilled material by bunding (product is hazardous for the environment)
Methods for cleaning up :	
- Recovery :	Recover the product with absorbent material
- Neutralization :	Absorb spillage with: - earth or sand Neutralize non-recoverable product with : - a solution of caustic or soda ash, and an appropriate alcohol (methanol, ethanol or isopropanol)
- Cleaning/decontamination :	Wash with plenty of water and detergent.
- Disposal :	Dispose of contaminated material at an authorized site

**07 HANDLING AND STORAGE****HANDLING**

Technical measures :	Vapour extraction at source
Precautions :	Avoid any direct contact with the product

**STORAGE**

Storage conditions :	
- Recommended :	Store : - the container tightly closed and dry - in a cool, well-ventilated area - away from any source of ignition

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- out of reach of children.
- away from food and drinks and animal foodstuffs

Packaging materials :

- Recommended : Original packaging

**08 EXPOSURE CONTROLS / PERSONAL PROTECTION**

Engineering measures : Ensure good ventilation of the work station

Personal protective equipment :

- Respiratory protection : In the event of insufficient ventilation:  
Filtering respiratory protective device with a specific pesticide canister.
- Hand protection : Handling the product (as is) :  
Neoprene protective gloves.  
Nitrile protective gloves.
- Eye protection : Goggles
- Skin and body protection : Handling product in large quantities :  
Impermeable suit (Hypalon, Tyvek, Saranex, PVC...)  
Safety foot-wear.

Collective emergency equipments : Safety shower

Hygiene measures : Always wash your hands after handling the product  
Do not drink, eat or smoke in the workplace  
Always take a shower after work.**09 PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : Liquid

Colour : red

Odour : none to slight

pH : 7.54

Flammability characteristics :

- Flash point : Not applicable (non-flammable liquid).

Relative density (water = 1) : 1.054 at 20°C.

Solubility :

- in water : Soluble

**10 STABILITY AND REACTIVITY**

Stability : Stable at ambient temperature and under normal conditions of use

Hazardous reactions :

- Conditions to avoid : May decompose :  
- on heating

- Hazardous decomposition products :

On combustion or on thermal decomposition (pyrolysis) releases :  
Carbon oxides (CO, CO<sub>2</sub>)  
Hydrogen fluoride, Hydrogen chloride  
Nitrogen oxides  
Sulphur oxides

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**11 TOXICOLOGICAL INFORMATION**

Product as it is :

Acute toxicity :

LC 50 inhalation/4h/rat: >4.7 mg/l  
(maximum attainable concentration - zero mortality)

LD 50 skin (Rat) : &gt; 2000 mg/kg

Harmful if swallowed

LD 50 oral (Rat) : 536 mg/kg

Acute symptoms :

Symptoms observed in laboratory animals :

Bifenthrin :

On ingestion :

Bleeding from the nose

Tremors

Diarrhoea

Vomiting

Convulsions

Local effects :

Not irritating to rabbit skin

Not irritating to rabbit eyes

Sensitization :

May cause sensitization by skin contact

**12 ECOLOGICAL INFORMATION**

MOBILITY :

Destination of the product :

Bifenthrin :

Ultimate destination of the product : SOIL and SEDIMENT.

DEGRADABILITY:

Persistence:

Bifenthrin :

Half-life (in soil) : 65-125 d

BIOACCUMULATION:

Octanol/water partition coefficient :

(\*)

Bifenthrin : (\*)

6.6 (\*)

Bioconcentration factor. (\*)

Bifenthrin : (\*)

BCF = &lt; 2000 (\*)

ECOTOXICITY :

Effects on the aquatic environment :

Product as is :

Very toxic to aquatic organisms

May cause long-term adverse effects to the aquatic environment

Bifenthrin :

Very toxic to aquatic organisms

May cause long-term adverse effects to the aquatic environment.

LC 50 (Fish) : 0.15 - 0.35 µg/l

EC 50 (Daphnia : Daphnia magna)/ 48 h : 0.11 µg/l

Effects on terrestrial animals:

Bifenthrin :

LD50(birds) : 1800-2150 mg/kg

**13 DISPOSAL CONSIDERATIONS**

WASTE FROM PRODUCT :

Prohibition :

Discharging waste into rivers and drains is prohibited

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Destruction/Disposal : Dispose of in accordance with relevant local regulations  
Incinerate at a licensed installation

CONTAMINATED PACKAGING :

Decontamination/cleaning : Beware of residues or vapours which remain in the drums.

Destruction/disposal : Recycle following cleaning or dispose of at an authorised site

**14 TRANSPORT INFORMATION**

## INTERNATIONAL REGULATIONS :

## Land transportation :

- Rail/road (RID/ADR) : UN number : 3082  
Class : 9  
Classification code : M6  
Hazard identification number : 90  
Labelling : 9  
Packaging group : III

## Sea (IMO/IMDG) :

UN number : 3082  
Class : 9  
Labelling : 9  
Packaging group : III  
Marine pollutant : YES

## Air (ICAO-IATA) :

UN number : 3082  
Class : 9  
Labelling : 9  
Packing group : III

**15 REGULATORY INFORMATION**

## EC LABELLING :

- Identification of the hazardous product:

Contains :  
Active ingredient(s) :  
Bifenthrin : 200 g/l - 20°C  
Other substance(s) :  
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and  
2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)

- Symbols and indications of danger:

- HARMFUL (Xn)  
- DANGEROUS FOR THE ENVIRONMENT (N)

- R phrases :

R 22 : Harmful if swallowed  
R 43: May cause sensitization by skin contact.  
R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- S phrases :

S 2 : Keep out of the reach of children  
S 24 : Avoid contact with skin  
S 37: Wear suitable gloves.  
S 29 : Do not empty into drains.

- Additional phrases :

Prescribed phrase on label :  
To avoid risks to man and the environment, comply with the instructions for use

NOTE :

The above information refers to the main regulations specifically applicable to the product described in the MSDS.

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The cited basic community texts are being updated and transcribed in national law.

Refer to all applicable international, national and local regulations or provisions.

The user's attention is drawn to the possible existence of additional provisions which complete these regulations.

## 16 OTHER INFORMATION

Registered trademarks :

Semafor and FMC are registered trademarks of FMC Corporation, USA.

\* Update :

This sheet was updated (refer to the date at the top of this page)

Subheadings and text which have been modified since the previous version are followed with an asterisk (\*)

This sheet completes the technical sheets but it does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith.

The attention of the user is drawn to the risks possibly incurred by using the product for any other purpose than that for which it was intended.

This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product.

The mandatory regulations mentioned are only intended to help the user to fulfil his obligations regarding the use of hazardous products.

This listing must not be considered exhaustive. It does not exonerate the user from ensuring that other legal obligations than those mentioned do not exist, relating to the use and storage of the product for which he solely is responsible.

**End of document.**

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