

MATERIAL SAFETY DATA SHEET

Product**STARION**

Page : 1/7

Product code : 681-UK

Version : 7.1

Date : 03/03/2005

Supersedes : 29/04/2004

01 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : STARION
Name : FMC CHEMICAL
Address : Boulevard de la Plaine, 9/3
1050 BRUXELLES
BELGIQUE
Telephone number : 32(0)2 6459584
Telefax number : 32(0)2 6459655
EMERGENCY TELEPHONE
NUMBER : 001 800 12 13 14 15
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. : T; R25 - Xn; R20 - R43 - N; R50-53) : 11 %
Solvent naphtha (petroleum), light arom. (CAS : 64742-95-6, EINECS : 265-199-0, EC auto-class. : R10 - Xi; R37 - Xn; R65 - R66 - R67 - N; R51/53) : < 82 %

03 HAZARDS IDENTIFICATION

MOST IMPORTANT HAZARDS :
Adverse human health effects : (*)
Harmful by inhalation and if swallowed
Harmful : May cause lung damage if swallowed
Irritating to eyes
Irritating to respiratory system
Irritating to skin (*)
Environmental effects :
Very toxic to aquatic organisms.
May cause long-term adverse effects to the aquatic environment
Physical and chemical hazards :
- Fire or explosion :
Flammable liquid
Burning and thermal decomposition may form toxic by-products
Classification of the product :
According to EC criteria, this product is classified as :
- HARMFUL
- IRRITANT
- FLAMMABLE
- 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

MATERIAL SAFETY DATA SHEET**Product****STARION**

Page : 2/7

Product code : 681-UK

Version : 7.1

Date : 03/03/2005

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Skin contact :	Remove all contaminated clothing and footwear Wash with 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) Consult an eye specialist immediately, even if there are no immediate symptoms
Ingestion :	Rinse mouth out with water If the person is fully conscious, make him/her drink water. Never give an unconscious person anything to drink Never attempt to induce vomiting Call a doctor immediately

05 FIRE FIGHTING MEASURES

Suitable extinguishing media :	Carbon dioxide (CO ₂) Foam Powders
Not suitable extinguishing media :	Water (the product is hazardous for the environment - do not dilute it)
Specific hazards :	On heating : Vapours are released which, when mixed with air, can burn or be explosive.
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 :	Do not attempt to intervene without a suitable protective equipment Remove all sources of ignition
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 basic solution 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

MATERIAL SAFETY DATA SHEET**Product****STARION**

Page : 3/7

Product code : 681-UK

Version : 7.1

Date : 03/03/2005

Supersedes : 29/04/2004

07 HANDLING AND STORAGE**HANDLING**

Technical measures : Use NON-sparking tools.
Vapour extraction at source

STORAGE

Storage conditions :

- Recommended : Store :
- the container tightly closed and dry
- in a cool, well-ventilated area
- away from any source of ignition
- out of reach of children.
- away from food and drinks and animal foodstuffs

Packaging materials :

- Recommended : Original packaging
- Not suitable : Rubbers.

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.

Hygiene measures : Always wash your hands after handling the product

09 PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid

Colour : light brown

Odour : aromatic.

pH : 5.6 (Aqueous dispersion - 1 %)

Flammability characteristics :

- Flash point : 40 °C

Specific gravity : 0.9133 - 0.916 kg/dm³ at 20 °C

Solubility :

- in water : An emulsion is formed.

Kinematic viscosity : 1.47 mm²/s at 40 °C

MATERIAL SAFETY DATA SHEET**Product****STARION**

Page : 4/7

Product code : 681-UK

Version : 7.1

Date : 03/03/2005

Supersedes : 29/04/2004

10 STABILITY AND REACTIVITY

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

Hazardous reactions :

- Conditions to avoid : May decompose :
- on heating
Vapours are released which, when mixed with air, can burn or be explosive.

- Hazardous decomposition products : On combustion or on thermal decomposition (pyrolysis) releases :
Carbon oxides (CO, CO₂)
Hydrogen fluoride, Hydrogen chloride

11 TOXICOLOGICAL INFORMATION (*)

Product as it is :

Acute toxicity : Harmful by inhalation.
LC 50 inhalation/4h/rat: >4.94 mg/l
LD 50 dermal (Rabbit): > 2000 mg/kg
Harmful if swallowed
LD 50 oral (Rat) : 520 mg/kg
Harmful : May cause lung damage if swallowed

Acute symptoms : Bleeding from the nose
Tremors
Convulsions

Local effects : Irritating to the respiratory system.
Irritating to the eyes
Irritating to skin

Sensitization : Tests on the formulation :
Not sensitizing
Contains however a substance (Bifenthrin) which may cause sensitization by skin contact.

12 ECOLOGICAL INFORMATION

DEGRADABILITY:

Biodegradability : Solvent naphtha (petroleum), light arom. :
Easily biodegradable

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

BIOACCUMULATION:

Octanol/water partition coefficient : Bifenthrin :
> 6

Bioconcentration factor. Bifenthrin :
BCF = 11750
Bioaccumulable.

ECOTOXICITY :

Effects on the aquatic environment : Product as is :
Very toxic to aquatic organisms

MATERIAL SAFETY DATA SHEET**Product****STARION**

Page : 5/7

Product code : 681-UK

Version : 7.1

Date : 03/03/2005

Supersedes : 29/04/2004

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

Bifenthrin :

Very toxic to aquatic organisms

LC 50 (Fish) : 0.15 - 0.35 µg/l

EC 50 (Daphnia) : 0.11 µg/l

Solvent naphtha (petroleum), light arom. :

Toxic to aquatic organisms

LC 50 (Fish) : 1-10 mg/l

EC 50 (Algae) : 1-10 mg/l

(published data)

13 DISPOSAL CONSIDERATIONS**WASTE FROM PRODUCT :**

Prohibition :

Discharging waste into rivers and drains is prohibited

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 : 1993

Class : 3

Classification code : F1

Hazard identification number : 30

Labelling : 3

Packaging group : III

Sea (IMO/IMDG) :

UN number : 1993

Class : 3

Labelling : 3

Packaging group : III

Air (ICAO-IATA) :

UN number : 1993

Class : 3

Labelling : 3

Packing group : III

15 REGULATORY INFORMATION**EC LABELLING :**

- Identification of the hazardous product:

Contains :

Active ingredient(s) :

Bifenthrin : 11 % weight (100 g/l - 20°C)

Other substance(s) :

Solvent naphtha (petroleum), light arom.

MATERIAL SAFETY DATA SHEET

Product**STARION**

Page : 6/7

Product code : 681-UK

Version : 7.1

Date : 03/03/2005

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- Symbols and indications of danger: - HARMFUL (Xn)
- DANGEROUS FOR THE ENVIRONMENT (N)
- R phrases : (*)
R 10 : Flammable
R 20/22: Harmful by inhalation and if swallowed.
R 36/37/38: Irritating to eyes, respiratory system and skin (*).
R 65 : Harmful : May cause lung damage if swallowed
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 26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S 62 : If swallowed, do not induce vomiting : seek medical advice immediately and show this container or label
S 57 : Use appropriate containment to avoid environmental contamination.
- Additional phrases :
Prescribed phrase on label :
Follow instructions' use to avoid risk to man and the environment.
Contains bifenthrin. May produce an allergic reaction
- NOTE :
The above information refers to the main regulations specifically applicable to the product described in the MSDS.
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 :

Starion 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



MATERIAL SAFETY DATA SHEET

Product

STARION

Page : 7/7

Product code : 681-UK

Version : 7.1

Date : 03/03/2005

Supersedes : 29/04/2004

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.

Number of pages : 7