

MATERIAL SAFETY DATA SHEET

Product**MARSHAL 25 EC**

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Product code : 6243-NPF

Version : 1

Date : 12/10/2004

01 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : MARSHAL 25 EC
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 : 00 32 / 14 58 45 45
Recommended use : Insecticide

02 COMPOSITION / INFORMATION ON INGREDIENTS

PREPARATION :

Chemical nature : Carbamate pesticide based on Carbosulfan and on Solvent naphtha (petroleum), light arom.

Components contributing to the hazard :

Carbosulfan (CAS : 55285-14-8, EINECS : 259-565-9, EC classification : T; R23/25 - R43 - N; R50-53) : 26.89 %
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) : 28.6 %
Distillates (petroleum), solvent-refined light paraffinic (CAS : 64741-89-5, EINECS : 265-091-3, EC auto-class. : Xn; R65) : < 28 %
Distillates (petroleum), solvent-refined heavy paraffinic (CAS : 64741-88-4, EINECS : 265-090-8, EC auto-class. : Xn; R65) : < 6 %
Hazardous constituents : Carbofuran (CAS : 1563-66-2, EINECS : 216-353-0, EC classification : T+; R26/28 - N; R50-53) : < 0.6 %
1,2,4-Trimethylbenzene (CAS : 95-63-6, EINECS : 202-436-9, EC classification : R10 - Xn; R20 - Xi; R36/37/38 - N; R51/53) : < 9 %
Cumene (CAS : 98-82-8, EINECS : 202-704-5, EC classification : R10 - Xi; R37 - Xn; R65 - N; R51-53) : < 2 %
Mesitylene (CAS : 108-67-8, EINECS : 203-604-4, EC classification : R10 - Xi; R37 - N; R51-53) : < 3 %

03 HAZARDS IDENTIFICATION

MOST IMPORTANT HAZARDS :

Adverse human health effects :

Toxic if swallowed
Harmful by inhalation and on contact with skin
Harmful : May cause lung damage if swallowed
Irritating to eyes and skin
May cause sensitization by skin contact.

Environmental effects :

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

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Physical and chemical hazards :

- Fire or explosion :

Flammable liquid
May form flammable/explosive vapour-air mixtures.
Burning and thermal decomposition may form toxic by-products

Classification of the product :

According to European regulations, this product is classified as :
- FLAMMABLE
- TOXIC
- SENSITIZING
- IRRITANT
- DANGEROUS FOR THE ENVIRONMENT.

04 FIRST AID MEASURES

Inhalation :

Move the affected person to the fresh air
In case of cough or mild shortness of breath :
Call a doctor

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 with plenty of water (for at least 15 minutes).
If irritation persists, consult an eye specialist

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 (CO₂)
Foam
Powders

Not suitable extinguishing media :

Water (the product is hazardous for the environment - do not dilute it)

Specific hazards :

May form flammable/explosive vapour-air mixtures.
Toxic fumes 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 :

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Environmental precautions :	Only qualified personnel equipped with appropriate protective equipment may intervene 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: - inert absorbent material. - earth or sand Neutralize non-recoverable product with : - a solution of acetic acid Follow by washing with : - a basic solution or a chlorine bleach
- Cleaning/decontamination :	To clean the floor or objects contaminated by this product, use: - a mixture of water and detergent
- Disposal :	Dispose of contaminated material at an authorized site

07 HANDLING AND STORAGE**HANDLING**

Technical measures : Vapour extraction at source

STORAGE

Storage conditions :

- Recommended :

Store :

- in a cool, dry area
- in a 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

08 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures :

Ensure good ventilation of the work station
Extraction to remove vapours at their source.

Personal protective equipment :

- Respiratory protection : Filtering respiratory protective device with a specific pesticide canister.

- Hand protection : Neoprene protective gloves.

- Eye protection : Goggles

- Skin and body protection : Impermeable suit (Hypalon, Tyvek, Saranex, PVC...).

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.
Separate working clothes from town clothes. Launder separately

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09 PHYSICAL AND CHEMICAL PROPERTIES

Physical state :	Liquid
Colour :	Dark amber
Odour :	aromatic.
pH :	8.45 (Aqueous dispersion - 1 %)
Flammability characteristics :	
- Flash point :	55°C (Closed cup).
Specific gravity :	0.9314 g/cm ³
Solubility :	
- in water :	An emulsion is formed.
Kinematic viscosity :	11.7 mm ² /s at 20 °C 6.29 mm ² /s at 40 °C

10 STABILITY AND REACTIVITY

Stability :	Stable at ambient temperature and under normal conditions of use
Hazardous reactions :	
- Materials to avoid :	Carbosulfan : Reacts with acids to form : - Carbofuran
- Hazardous decomposition products :	On combustion or on thermal decomposition (pyrolysis) releases : Carbon oxides (CO, CO ₂) Nitrogen oxides Sulphur oxides

11 TOXICOLOGICAL INFORMATION

Product as it is :	No specific data. Data above have been obtained on a similar product
Acute toxicity :	Harmful by inhalation. LC 50 inhalation / 4h / rat: 1.06 mg/l Harmful on contact with skin. LD 50 skin (Rabbit) : 1600 mg/kg Toxic if swallowed. LD 50 oral (Rat) : 39 mg/kg Harmful : May cause lung damage if swallowed
Acute symptoms :	Carbosulfan is a reversible cholinesterase inhibitor Headache Weakness Abdominal pain Nausea Salivation Blurred vision Lacrimation Blue skin colouring Convulsions

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Local effects : Tremors
Coma
Irritating to the skin
Irritating to the eyes

Sensitization : May cause sensitization by skin contact

12 ECOLOGICAL INFORMATION

DEGRADABILITY:

Persistence: Carbosulfan :
Half-life (in soil) : < 5 d

BIOACCUMULATION:

Octanol/water partition coefficient : Carbosulfan :
3.3

Bioconcentration factor. Carbosulfan :
BCF = 990

ECOTOXICITY :

Effects on the aquatic environment : Product as is :
Very toxic to aquatic organisms
May cause long-term adverse effects to the aquatic environment.
LC 50 (Fish) : < 56 µg/l
(data obtained on a similar product)

Effects on terrestrial animals: Carbosulfan :
LD50(birds) : 20-82 mg/kg

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 : Clean with water.

Destruction/disposal : Recycle following cleaning.

14 TRANSPORT INFORMATION

INTERNATIONAL REGULATIONS :

Land transportation :

- Rail/road (RID/ADR) : UN number : 2991
Class : 6.1
Classification code : TF2
Labelling : 6.1 + 3
Hazard identification number : 63
Packaging group : II

Sea (IMO/IMDG) :

UN number : 2991
Class : 6.1
Labelling : 6.1 + 3

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Air (ICAO-IATA) :

Packaging group : II
Marine pollutant : YES
UN number : 2991
Class : 6.1
Subsidiary risk : 3
Labelling : 6.1 + 3
Packing group : II

NOTE :

The above regulatory prescriptions are those valid on the date of publication of this sheet.
Given the possible evolution of transport regulations for hazardous materials, in case the present sheet is dating back to more than 12 months ago, it would be advisable to check their validity with your commercial agency

15 REGULATORY INFORMATION

EC LABELLING :

- Identification of the hazardous product:

Contains :
Active ingredient(s) :
Carbosulfan : 26.89 % weight (250 g/l - 20°C)
Other substance(s) :
Solvent naphtha (petroleum), light arom.
Distillates (petroleum), solvent-refined light paraffinic
Carbofuran

- Symbols and indications of danger:

- TOXIC (T)
- DANGEROUS FOR THE ENVIRONMENT (N)

- R phrases :

R 10 : Flammable
R 25 : Toxic if swallowed
R 20/21: Harmful by inhalation and in contact with skin.
R 36/38: Irritating to eyes and skin.
R 43: May cause sensitization by skin contact.
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 45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S 36/37 : Wear suitable protective clothing and gloves
S 62 : If swallowed, do not induce vomiting : seek medical advice immediately and show this container or label
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.
The cited basic community texts are being updated and transcribed in national law.
Refer to all applicable international, national and local regulations or



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provisions.

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

16 OTHER INFORMATION

Registered trademarks :

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

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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