



## Equation<sup>®</sup> Pro SC

Version 2.1

Revision Date 25.05.2013

Ref. 130000029462

This SDS adheres to the standards and regulatory requirements of India and may not meet the regulatory requirements in other countries.

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product information

Trade name : Equation<sup>®</sup> Pro SC

Use of the Substance/Mixture : Fungicide

Information on manufacturer/Supplier :  
 Importer/Local Agent : E. I. DuPont India Pvt. Ltd.  
 Contact : 7th Floor, Tower C, DLF Cyber Greens, Sector 25A, DLF City Phase III,  
 Gurgaon - 122002, Haryana  
 India

Telephone : +91-124-2540900  
 Telefax : +91-124-2540889 / 90 / 91 / 92  
 Emergency telephone number : +91-124-4092888 / +91-124-2353777

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : B12337540  
 DPX-KX007

#### Components

Chemical Name	CAS-No.	Concentration
Cymoxanil	57966-95-7	22.1 %
Famoxadone	131807-57-3	16.6 %
Other Ingredients		61.3 %

### 3. HAZARDS IDENTIFICATION

#### Risks

Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Safety data

Keep out of the reach of children.  
 Keep away from food, drink and animal feedingstuffs.  
 When using do not eat, drink or smoke.  
 Wear suitable gloves.  
 Use appropriate container to avoid environmental contamination.  
 This material and its container must be disposed of as hazardous waste.



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### 4. FIRST AID MEASURES

- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- Inhalation : Remove person to fresh air. If signs/symptoms continue, get medical attention. Artificial respiration and/or oxygen may be necessary. Call a poison control center or doctor for treatment advice.
- Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye contact : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- Ingestion : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.

### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
- Extinguishing media which shall not be used for safety reasons : High volume water jet, (contamination risk)
- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers / tanks with water spray.

### 6. ACCIDENTAL RELEASE MEASURES

- Environmental precautions : Prevent material from entering sewers, waterways, or low areas.
- Methods for cleaning up : Sweep up and shovel into suitable containers for disposal.
- Additional advice : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.



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### 7. HANDLING AND STORAGE

#### Handling

Advice on safe handling : Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

Advice on protection against fire and explosion : Keep away from heat and sources of ignition.

#### Storage

Requirements for storage areas and containers : Store in original container. Store in a cool, dry place. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Keep out of the reach of children.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Occupational Exposure Limits

Chemical Name	Occupational Exposure Limits		Regulation
Acetic acid...%	STEL	15 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	10 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	10 ppm, 25 mg/m <sup>3</sup>	India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment (2001)
	STEL	15 ppm, 37 mg/m <sup>3</sup>	India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment (2001)
Fumed silica, crystalline-free	TWA	10 mg/m <sup>3</sup> (Total dust.)	India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment (2001)
Butanone	STEL	300 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)



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	TWA	200 ppm, 590 mg/m <sup>3</sup>	India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment (2001)
	STEL	300 ppm, 885 mg/m <sup>3</sup>	India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment (2001)

### Engineering measures

Use only with adequate ventilation.

### Personal protective equipment

Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge.

Hand protection : Material: Protective gloves

Eye protection : Wear protective eyewear to prevent contact with this substance.

Skin and body protection : Wear protective clothing such as gloves, apron, boots, or coveralls, as appropriate.

Hygiene measures : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing.

Protective measures : All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated. End users of this product should follow label instructions for personal protection when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : liquid

pH : 4.2 (1.12 g/ml)

Density : 1.17 g/cm<sup>3</sup>

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**10. STABILITY AND REACTIVITY**

- Conditions to avoid : None reasonably foreseeable.
- Materials to avoid : No materials to be especially mentioned.
- Hazardous decomposition products : No information available.
- Hazardous reactions : Polymerization will not occur. Stable at normal temperatures and storage conditions.

**11. TOXICOLOGICAL INFORMATION**

- Acute oral toxicity
- Cymoxanil : LD50/rat : 960 mg/kg
  - Famoxadone : LD50/rat : > 5,000 mg/kg
- Acute inhalation toxicity
- Cymoxanil : LC50/4 h/rat : > 5.06 mg/l
  - Famoxadone : LC50/4 h/rat : > 5.3 mg/l
- Acute dermal toxicity
- Cymoxanil : LD50/rabbit : > 2,000 mg/kg
  - Famoxadone : LD50/rat : > 2,000 mg/kg
- Skin irritation
- Cymoxanil : rabbit  
Result: No skin irritation
  - Famoxadone : rabbit  
Result: No skin irritation
- Eye irritation
- Cymoxanil : rabbit  
Result: No eye irritation
  - Famoxadone : rabbit  
Result: No eye irritation
- Sensitisation
- Cymoxanil : guinea pig Result: Did not cause sensitisation on laboratory animals.
  - Famoxadone : guinea pig Result: Animal test did not cause sensitization by skin contact.



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### Repeated dose toxicity

- Cymoxanil : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.  
  
Oral multiple species altered blood chemistry
- Famoxadone : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.  
  
Oral - feed dog eye effects  
  
Oral - feed rat Reduced body weight gain Organ weight changes Increased liver enzyme levels in serum Liver effects Red blood cell destruction causing abnormal decrease in number of red blood cells (anaemia)  
  
Dermal rat Increased liver weight Increased liver enzyme levels in serum

### Mutagenicity assessment

- Cymoxanil : Did not show mutagenic effects in animal experiments. Evidence suggests this substance does not cause genetic damage in cultured mammalian cells. Evidence suggests this substance does not cause genetic damage in cultured bacterial cells.
- Famoxadone : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Did not cause genetic damage in animals.

### Carcinogenicity assessment

- Cymoxanil : Did not show carcinogenic effects in animal experiments.
- Famoxadone : Did not show carcinogenic effects in animal experiments.

### Toxicity to reproduction assessment

- Cymoxanil : Animal testing did not show any effects on fertility.
- Famoxadone : Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.

### Assessment teratogenicity

- Cymoxanil : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
- Famoxadone : Animal testing showed no developmental toxicity.

Further information : No data is available on the product itself.

## 12. ECOLOGICAL INFORMATION

### Toxicity to fish

- Cymoxanil : LC50/96 h/Lepomis macrochirus (Bluegill sunfish): 29 mg/l
- Famoxadone : LC50/96 h/Oncorhynchus mykiss (rainbow trout): 0.011 mg/l



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Toxicity to algae  
 • Cymoxanil : ErC50/72 h/Pseudokirchneriella subcapitata (green algae): 2.39 mg/l

Aquatic toxicity  
 • Cymoxanil : EC50/48 h/Daphnia magna (Water flea): 27 mg/l  
 • Famoxadone : EC50/48 h/Daphnia magna (Water flea): 0.0118 mg/l

### Further information on ecology

Additional ecological information : No data is available on the product itself. See product label for additional application instructions relating to environmental precautions.

### 13. DISPOSAL CONSIDERATIONS

Product : In accordance with local and national regulations. The product should not be allowed to enter drains, water courses or the soil.  
 Contaminated packaging : Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

#### IMDG

UN number : 3082  
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (Famoxadone, Cymoxanil)  
 Class : 9  
 Packing group : III  
 Labelling No. : 9  
 Marine pollutant : yes (Famoxadone, Cymoxanil)

#### IATA\_C

UN number : 3082  
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (Famoxadone, Cymoxanil)  
 Class : 9  
 Packing group : III  
 Labelling No. : 9MI

Hazchem Code : .3Z

### 15. REGULATORY INFORMATION

#### National regulatory information



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Product subject to regulatory requirements under the Insecticides Act, 1968 and Insecticides Rules, 1971

### Regulations in other countries

Symbol(s)	: Xn N	Harmful Dangerous for the environment
Hazardous components	: Cymoxanil Famoxadone	
R-phrases(s)	: R48/22 R50/53	Harmful: danger of serious damage to health by prolonged exposure if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	: S 2 S13 S20/21 S37 S57 S60	Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. Wear suitable gloves. Use appropriate container to avoid environmental contamination. This material and its container must be disposed of as hazardous waste.

## 16. OTHER INFORMATION

### Sources of key data used to compile the Safety Data Sheet:

1. The Factories Act, 1948, The Second Schedule: Permissible levels of certain chemical substances in work environment, as amended through April, 2001
2. Manufacture, Storage and Import of Hazardous Chemical Rules 1989, as amended through January 2000
3. Insecticide Act, 1968 (46 of 1968, Dt. 2-9-1968)
4. Insecticide Rule, 1971 (GSR 1650, Dt. 9-10-1971)

### Department:

E. I. DuPont India Pvt. Ltd.  
7th Floor, Tower C, DLF Cyber Greens, Sector 25A, DLF City Phase III, Gurgaon - 122002, Haryana  
India

### Further information:

Take notice of the directions of use on the label.

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Significant change from previous version is denoted with a double bar.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such



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