

SAFETY DATA SHEET



DuPont™ Curzate® M-8 Fungicide (WP)

Version 2.2

Revision Date 13.01.2017

Document no. 130000028882

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 name : DuPont™ Curzate® M-8 Fungicide (WP)

Other names : B10054301

Recommended use of the chemical and restriction on use

Recommended use : Fungicide

Restrictions on use : Do not use product for anything outside of the above specified uses.

Manufacturer, importer, supplier, representative office

Company : E. I. DuPont India Pvt. Ltd.

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2. HAZARDS IDENTIFICATION

Product hazard classification

Serious eye damage/eye irritation : Category 2A

Carcinogenicity : Category 1B

Specific target organ toxicity - repeated exposure : Category 2 (Thyroid, thymus)

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 1

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

Label content

Pictogram :



Signal word : Danger

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- Hazardous warnings** : Causes serious eye irritation.
May cause cancer.
May cause damage to organs through prolonged or repeated exposure. (Thyroid, thymus)
Very toxic to aquatic life with long lasting effects.
- Precautionary statements** : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Collect spillage.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Components

Chemical name	CAS-No.	Concentration
Mancozeb	8018-01-7	64.5 %
Cymoxanil	57966-95-7	8 %
Other Ingredients		27.5 %

4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Never give anything by mouth to an unconscious person.

- Inhalation** : Move to fresh air. 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** : 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. Never give anything by mouth to an unconscious person. Call a poison control center or doctor for treatment advice.

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Most important symptoms/effects, acute and delayed : No information available.

Protection of first-aiders : No information available.

Notes to physician : No information available.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray, Dry chemical, Foam, Carbon dioxide (CO₂)

Unsuitable extinguishing media : High volume water jet, (contamination risk)

Specific hazards : Under severe dusting conditions, this material may form explosive mixtures in air.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Specific extinguishing methods : No information available.

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

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas. Control access to area. Avoid dust formation. Avoid breathing dust. Avoid contact with skin and eyes. Use personal protective equipment.

Environmental precautions : Prevent material from entering sewers, waterways, or low areas.

Methods and materials for containment and cleaning up : Clean-up methods - large spillage Prevent further leakage or spillage. Use approved industrial vacuum cleaner for removal. Shovel into suitable container for disposal. Clean-up methods - small spillage Sweep up or vacuum up spillage and collect in suitable container for disposal.

Additional advice : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Handling

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Technical measures/Precautions : Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Avoid dust formation.

Precautions for safe handling : Keep away from heat and sources of ignition. Avoid dust formation in confined areas. During processing, dust may form explosive mixture in air.

Storage

Suitable storage conditions : Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

Storage period: Storage temperature: < 49 °C
Stable under recommended storage conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Applicable occupational exposure limits are listed below.

Chemical name	Occupational Exposure Limits	Regulation
Mancozeb		
TLV-C (as Mn)	5 mg/m ³ (Dust.)	IN OEL (2001)

Engineering measures : Use only with adequate ventilation.

Biological occupational exposure limits : No information available.

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

Hygiene measures : Avoid contact with skin, eyes and clothing. Avoid breathing dust. 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. Wash thoroughly and put on clean clothing.

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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**Appearance (Physical state, form, colour, etc.)**

Physical state : solid
Form : powder
Colour : light yellow

Odour : sulphurous

Odour Threshold : No information available.

pH : 7.4
(1% solution in water)

Melting point/freezing point

No information available.

Initial boiling point and boiling range

No information available.

Flash point : No information available.

Evaporation rate : No information available.

Flammability (solid, gas) : No information available.

Upper/lower flammability or explosive limits

Upper explosion limit : No information available.
Lower explosion limit : No information available.

Vapour pressure : No information available.

Vapour density : No information available.

Density

Density : 0.64 g/cm³
Bulk density : 290 kg/m³
loose
410 kg/m³
packed

Solubility(ies)

Water solubility : dispersible

Partition coefficient: n-octanol/water : No information available.

Auto-ignition temperature


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No information available.

Decomposition temperature : No information available.

Viscosity
Viscosity, kinematic : No information available.

Molecular weight : No information available.

10. STABILITY AND REACTIVITY

Reactivity : No information available.

Chemical stability : Stable at normal temperatures and storage conditions.
May undergo decomposition upon prolonged exposure to heat. May undergo decomposition upon prolonged exposure to air.

Possibility of hazardous reactions : Polymerization will not occur.

Conditions to avoid : To avoid thermal decomposition, do not overheat. Under severe dusting conditions, this material may form explosive mixtures in air.

Materials to avoid : water (in storage)

Incompatible with oxidizing agents.
Incompatible with acids.

Hazardous decomposition products : Hazardous decomposition products
Sulphur compounds, Hydrogen cyanide (hydrocyanic acid)

11. TOXICOLOGICAL INFORMATION
Acute toxicity

Oral

DuPont™ Curzate® M-8 Fungicide (WP) : LD50/Rat: 7,664 mg/kg

Inhalation

DuPont™ Curzate® M-8 Fungicide (WP) : LC50/Rat(dust/mist): > 5.4 mg/l

Dermal

DuPont™ Curzate® M-8 Fungicide (WP) : LD50/Rat: > 5,000 mg/kg

Skin corrosion/irritation

DuPont™ Curzate® M-8 Fungicide (WP) : Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

DuPont™ Curzate® M-8 Fungicide (WP) : Species: Rabbit
Result: Eye irritation

Respiratory or skin sensitisation


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DuPont™ Curzate® M-8 Fungicide (WP) : Species: Guinea pig
 Result: Does not cause skin sensitisation.
 Classification: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Mancozeb : Animal testing did not show any mutagenic effects. Evidence suggests this substance does not cause genetic damage in cultured mammalian cells. Did not cause genetic damage in cultured bacterial cells. Evidence suggests this substance does not cause genetic damage in animals.

Cymoxanil : Animal testing did not show any mutagenic effects. Evidence suggests this substance does not cause genetic damage in cultured bacterial cells. Tests on mammalian cell cultures showed mutagenic effects.

Carcinogenicity

Mancozeb : Possible human carcinogen
 The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
 An increased incidence of tumours was observed in laboratory animals.

Cymoxanil : Not classifiable as a human carcinogen.
 Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Mancozeb : Reproductive toxicity: No toxicity to reproduction
 Animal testing showed no reproductive toxicity.
 Teratogenicity: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
 Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Cymoxanil : Reproductive toxicity: No toxicity to reproduction
 Teratogenicity: Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Specific Target Organ Toxicity

Specific target organ toxicity - single exposure

Cymoxanil : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

Mancozeb : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Cymoxanil : Likely route of exposure: Ingestion
 Target Organs: thymus
 The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration hazard

Cymoxanil : No aspiration toxicity classification

Other

Mancozeb : Repeated dose toxicity:
 The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

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Inhalation/Rat
Thyroid effects
Oral - feed/Rat
Thyroid effects
Oral - feed/Dog
Thyroid effects

Cymoxanil : Repeated dose toxicity:
The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
Oral/multiple species
altered blood chemistry, No effect to neurotoxicity.
Oral - feed/Dog 90 d
Target Organs: thymus
Thymus effects

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Acute and prolonged toxicity to fish

DuPont™ Curzate® M-8 Fungicide (WP) : LC50/96 h/Oncorhynchus mykiss (rainbow trout): 0.46 mg/l

Toxicity to aquatic plants

DuPont™ Curzate® M-8 Fungicide (WP) : EbC50/72 h/Pseudokirchneriella subcapitata (green algae): 0.029 mg/l

Acute toxicity to aquatic invertebrates

DuPont™ Curzate® M-8 Fungicide (WP) : EC50/48 h/Daphnia magna (Water flea): 0.71 mg/l

Chronic toxicity to fish

Cymoxanil : NOEC/21 d/Oncorhynchus mykiss (rainbow trout): 0.22 mg/l

Chronic toxicity to aquatic Invertebrates

DuPont™ Curzate® M-8 Fungicide (WP) : NOEC/21 d/Daphnia magna (Water flea): 0.01 mg/l

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in soil

No information available.

Other adverse effects

DuPont™ Curzate® M-8 Fungicide (WP) : See product label for additional application instructions relating to environmental precautions.

13. DISPOSAL CONSIDERATIONS

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Waste disposal methods : 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 : 3077
UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Mancozeb, Cymoxanil)
Transport hazard class : 9
Packing group : III
Hazchem Code : 2Z
Marine pollutant : yes (Mancozeb, Cymoxanil)

IATA

UN number : 3077
UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Mancozeb, Cymoxanil)
Transport hazard class : 9
Packing group : III

Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises : Not applicable

15. REGULATORY INFORMATION

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

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

References

SDS Number: 130000028882

Revision Date/Version

Date of first preparation : 03.05.2011
Revision Date : 13.01.2017
Version : 2.2



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Take notice of the directions of use on the label.

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

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