

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

-- SAFETY DATA SHEET --

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Page 1 of 5

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AGRICULTURAL PRODUCTS DEPARTMENT

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product code: B10045722

Product name: SYSTOL* M MAFF 08085

Supplier: Emergency telephone number

Du Pont (U.K.) Limited (02871) 861.313
Wedgwood Way
Stevenage, Herts. SG1 4QN / Great Britain
Tel: 01438 734000

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the preparation: dithiocarbamate based fungicide

Synonyms: Curzate* M 68, Besiege

Hazardous components	Classification	Weight %	CAS-No	EC-No.
Mancozeb (a.i.):	Xi; R 37-43	68	8018-01-7	
Cymoxanil (a.i.):	Xn; R 22	4,5	57966-95-7	261-043-0

Chemical name of the substance:

Mancozeb; Manganese ethylenebisdithiocarbamate polymeric complex with zinc salt
Cymoxanil; 1-(2-Cyano-2-methoxyiminoacetyl)-3-ethylurea

3. HAZARDS IDENTIFICATION

Most important hazards: May cause sensitization by skin contact. Irritating to eyes.

Specific hazards: None known.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Oxygen or artificial respiration if needed. Call a physician immediately.

Skin contact: Wash off immediately with soap and plenty of water. Take off all contaminated clothing immediately. Consult a physician.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Notes to physician: For specialist advice physicians should contact the National Poisons Information Service, (24-hr), Tel: 0870-600-6266.

* DuPont's registered trademark

(a.i.) = active ingredient

AGRICULTURAL PRODUCTS DEPARTMENT

Product name: SYSTOL* M MAFF 08085

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: water spray, dry chemical, carbon dioxide (CO2)

Extinguishing media which must not be used for safety reasons: high volume water jet (contamination risk)

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

Specific methods: (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 spray water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: wear personal protective equipment

Environmental precautions: Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Clean up promptly by scoop or vacuum. Use approved industrial vacuum cleaner for removal. Shovel into suitable container for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling

Technical measures/Precautions: Provide appropriate exhaust ventilation at places where dust is formed.
Safe handling advice: wear personal protective equipment Keep away from heat and sources of ignition.

Storage

Technical measures/Storage conditions: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures below 49 °C. Store in a place accessible by authorized persons only.

Incompatible products: Do not store near acids..

Packaging material: No materials to be specially mentioned.

Further information: Keep out of reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Control parameters:

Mancozeb; DuPont's acceptable exposure limit: AEL(8-h TWA, total dust) = 2 mg/m³; AEL(12-h TWA, total dust) = 1.5 mg/m³; DuPont(1999)

Cymoxanil; DuPont's acceptable exposure limit: AEL(8-h and 12-h TWA) = 2 mg/m³; DuPont(1999)

Personal protective equipment

Respiratory protection: respirator with P2 filter

Eye protection: goggles, face-shield

Hand protection: Neoprene gloves

Skin and body protection: protective suit

Hygiene measures: Wash hands and face before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. When using, do not eat, drink or smoke. Do not breathe dust. Avoid contact with skin.

AGRICULTURAL PRODUCTS DEPARTMENT

Product name: SYSTOL* M MAFF 08085

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: solid (wettable powder)
Colour: yellow
Odour: none

pH: (25 °C) (at 10 g/l H ₂ O)	7,6
Decomposition temperature:	Decomposes before melting.
Flash point:	Not applicable
Explosive properties:	no data available
Vapour pressure:	negligible
Relative density:	no data available
Bulk density:	600 kg/m ³
Solubility: Water solubility	dispersible
Explosion limits: - lower	0,144 vol. %

10. STABILITY AND REACTIVITY

Stability: No decomposition if stored and applied as directed.

Materials to avoid: Incompatible with acids.

Hazardous decomposition products: hydrogen sulphide, carbon disulphide, carbon oxides, sulphur oxides, nitrogen oxides.

Further information: During processing, dust may form explosive mixture in air. Decomposition by contact with water may generate vapours which can be ignited by heat or open flame.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Formulated product

Local effects: Irritating to eyes.

Sensitization: May cause sensitisation by skin contact.

Mancozeb:

LD50/oral/rat = 6700 mg/kg
LD50/dermal/rabbit = > 5000 mg/kg
LC50/inhalation/4h/rat = > 5.14 mg/l

Cymoxanil:

LD50/oral/rat = 960 mg/kg
LD50/dermal/rabbit = > 2000 mg/kg
LC50/inhalation/4h/rat = > 5.06 mg/kg

AGRICULTURAL PRODUCTS DEPARTMENT

Product name: SYSTOL* M MAFF 08085

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

Mancozeb

Toxicity to fish and other aquatic fauna:
LC50/ 48 h/ Rainbow trout = 1.9 mg/l
LC50/96h/bluegill sunfish = 1.63 mg/l
EC50/48h/daphnia = 1.3 mg/l

Toxicity to algae:

EC50/72h/algae = 0.43 mg/l

Toxicity to birds

LC50/8 days/mallard duck = 6400 mg/kg
LC50/ 8 days/ Japanese quail = 3200 ppm

Bioaccumulation:

log POW = < 1.49

Persistence and degradability According to the results of tests of biodegradability this product is not readily biodegradable.

Cymoxanil

Toxicity to fish and other aquatic fauna:
LC50/96h/rainbow trout = 61 mg/l
LC50/96h/bluegill sunfish = 29 mg/l
EC50/48h/daphnia = 27 mg/l

Toxicity to algae:

EC50/72h/algae = 0.35 mg/l

Toxicity to birds

LC50/8 days/mallard duck = > 2250 mg/kg
LC50/8 days/bobwhite quail = > 2250 mg/kg

Bioaccumulation

log POW = 0.66 (pH7)

Persistence and degradability According to the results of tests of biodegradability this product is not readily biodegradable.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: In accordance with local and national regulations.. As in Code of Practice under FEPA 1985. Do not allow material to contaminate ground water system. Do not contaminate surface water.

Contaminated packaging Do not re-use empty containers Do not contaminate ponds, waterways or ditches with chemical or used container.

AGRICULTURAL PRODUCTS DEPARTMENT

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14. TRANSPORT INFORMATION UN-No: 3077

ADR/RID

Class: 9 Item: 12(c) TREM-CARD: 90GM7-III-B
Hazard labels: 9 HI-No: 90 SI-No: 3077
Proper shipping name: 3077 Environmentally hazardous substance, solid, n.o.s.
(contains mancozeb) 9, III, ADR

IMO

Class: 9 Packing group: III EmS: -
Hazard labels: 9, MARINE POLLUTANT mark
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (contains mancozeb)
Class 9, UN 3077, PG III, Marine pollutant.

ICAO

Not regulated. Possible optional classification as per IATA "Special Provision A97", described as
:
Class: 9 Packing group: III
Hazard labels: 9
Packing instruction (passenger aircraft): 911 kg / No limit
Packing instruction (cargo aircraft): 911 kg / No limit
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (contains mancozeb)
Class 9, UN 3077, PG III

15. REGULATORY INFORMATION

According to Part III of the Food and Environment Protection Act 1985 and the Control of Pesticides Regulations 1986, the product has to be classified and labelled as follows:

Contains: Mancozeb, Cymoxanil
Symbol(s): Xi - Irritant
R-phrases: R43 - May cause sensitization by skin contact.
R36 - Irritating to eyes.
S-phrases: S2 - Keep out of reach of children.
S13 - Keep away from food, drink and animal feeding stuffs.
S20/21 - When using, do not eat, drink or smoke.
S24 - Avoid contact with the skin.
S36/37 - Wear suitable protective clothing and gloves.
S46 - If swallowed, seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

Recommended use: Agricultural Fungicide

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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.