

DITHANE™ M-45™ Fungicide

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| Version 1.0 | Revision Date: 12/16/2022 | SDS Number: 800080003266 | Date of last issue: - Date of first issue: 16.12.2022 |
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Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of Georgia and may not meet the regulatory requirements in other countries.

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

Product name : DITHANE™ M-45™ Fungicide

Manufacturer or supplier's details

COMPANY IDENTIFICATION

Manufacturer/importer : Corteva Agriscience International S.a.r.l.
Route de Suisse 160
CH-1290 Versoix
Switzerland

E-mail address : SDS@corteva.com

Emergency telephone : +32 3 575 55 55

Recommended use of the chemical and restrictions on use

Recommended use : End use fungicide product

2. HAZARDS IDENTIFICATION

GHS Classification

Skin sensitization : Category 1

Reproductive toxicity : Category 2

Short-term (acute) aquatic hazard : Category 1

GHS-Labeling

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H400 Very toxic to aquatic life.

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Precautionary Statements : **Prevention:**
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P273 Avoid release to the environment.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P391 Collect spillage.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/container in accordance with applicable regulations.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Components

| Chemical name | CAS-No. | Classification | MAC value mg/m3 / TSEL value | Concentration (% w/w) |
|-------------------|-----------|---|---|--------------------------|
| mancozeb (ISO) | 8018-01-7 | Skin Sens.1; H317 Repr.2; H361 Aquatic Acute1; H400 | No data available | 88,79 |
| methenamine | 100-97-0 | Flam. Sol.2; H228 Skin Sens.1; H317 | MPC-STEL: 0,3 mg/m3 Class 2 - Highly dangerous, Sub- stances which require special skin and eye protection Data Source: RU OEL | >= 1 - < 3 |
| ethylene thiourea | 96-45-7 | Acute Tox.4; H302 Repr.1B; H360 Aquatic Acute3; H402 | No data available | >= 0,1 - < 0,3 |

For explanation of abbreviations see section 16.

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4. FIRST AID MEASURES

- If inhaled : Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.
- In case of skin contact : Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.
- In case of eye contact : Hold eyes 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 eyes. Call a poison control center or doctor for treatment advice.
- If swallowed : No emergency medical treatment necessary.
- Most important symptoms and effects, both acute and delayed : None known.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help.
No specific antidote.
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.
Repeated excessive exposure may aggravate preexisting lung disease.

5. FIRE-FIGHTING MEASURES

Flammable properties

- Flash point : Method: closed cup
Not applicable
- Ignition temperature : Not applicable
- Upper explosion limit / Upper flammability limit : Not applicable
- Lower explosion limit / Lower flammability limit : Not applicable
- Flammability (solid, gas) : No data available
- Suitable extinguishing media : Water spray

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| Unsuitable extinguishing media | : | Alcohol-resistant foam None known. |
| Specific hazards during fire fighting | : | Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : | During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. |
| | | Combustion products may include and are not limited to: Carbon oxides Nitrogen oxides (NOx) |
| Specific extinguishing methods | : | Remove undamaged containers from fire area if it is safe to do so. Evacuate area. Use water spray to cool unopened containers. |
| Further information | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment. |

6. ACCIDENTAL RELEASE MEASURES

| | | |
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| Personal precautions, protective equipment and emergency procedures | : | Avoid dust formation. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. |
| Environmental precautions | : | Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in. Pick up and arrange disposal without creating dust. Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container. Sweep up and shovel. Keep in suitable, closed containers for disposal. Sweep up or vacuum up spillage and collect in suitable container for disposal. See Section 13, Disposal Considerations, for additional information. |

7. HANDLING AND STORAGE

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| Advice on safe handling | : | Handle in accordance with good industrial hygiene and safety |
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practice.
Smoking, eating and drinking should be prohibited in the application area.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Conditions for safe storage : Store in a closed container.
Keep in properly labeled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Engineering measures : Use engineering controls to maintain airborne level below exposure limit requirements or guidelines.
If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation.
Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines.
If there are no applicable exposure limit requirements or guidelines, use an approved respirator.
Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.
For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection : Use safety glasses (with side shields).

Skin and body protection : Use protective clothing chemically resistant to this material.
Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance | : Powder |
| Color | : Yellow |
| Odor | : Sulfur-like |
| Odor Threshold | : No data available |
| pH | : No data available |
| Melting point/range | : No data available |
| Freezing point | : Not applicable |
| Boiling point/boiling range | : Not applicable |
| Flash point | : Method: closed cup Not applicable |
| Evaporation rate | : Not applicable |
| Flammability (solid, gas) | : No data available |
| Upper explosion limit / Upper flammability limit | : Not applicable |
| Lower explosion limit / Lower flammability limit | : Not applicable |
| Vapor pressure | : Not applicable |
| Relative vapor density | : Not applicable |
| Density | : No data available |
| Bulk density | : No data available |
| Solubility(ies) Water solubility | : No data available |
| Autoignition temperature | : Not applicable |
| Viscosity Viscosity, dynamic | : Not applicable |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

10. STABILITY AND REACTIVITY

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| Reactivity | : Not classified as a reactivity hazard. |
| Chemical stability | : No decomposition if stored and applied as directed. |

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| Possibility of hazardous reactions | : | Stable under normal conditions. Stable under recommended storage conditions. No hazards to be specially mentioned. None known. |
| Conditions to avoid | : | None known. |
| Incompatible materials | : | None. |
| Hazardous decomposition products | : | Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon oxides Nitrogen oxides (NOx) |

11. TOXICOLOGICAL INFORMATION

STOT-single exposure

Product:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Aspiration toxicity

Product:

Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or other-

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wise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION**ADR**

| | | |
|------------------------------|---|---|
| UN number | : | UN 3077 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Mancozeb) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| Hazard Identification Number | : | 90 |
| Tunnel restriction code | : | (-) |

UNRTDG

| | | |
|----------------------|---|---|
| UN number | : | UN 3077 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Mancozeb) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |

IATA-DGR

| | | |
|--|---|---|
| UN/ID No. | : | UN 3077 |
| Proper shipping name | : | Environmentally hazardous substance, solid, n.o.s. (Mancozeb) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | Miscellaneous |
| Packing instruction (cargo aircraft) | : | 956 |
| Packing instruction (passenger aircraft) | : | 956 |

IMDG-Code

| | | |
|----------------------|---|---|
| UN number | : | UN 3077 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Mancozeb) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| EmS Code | : | F-A, S-F |
| Marine pollutant | : | yes |
| Remarks | : | Stowage category A |

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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Further information

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****16. OTHER INFORMATION****Full text of H-Statements****Full text of other abbreviations**

- | | | |
|--------|---|---|
| List 1 | : | GN 2.1.6.1338-03 Maximum permissible concentrations (MAC) of pollutants in air of the settlements |
| List 1 | : | GN 2.1.6.3492-17 Maximum permissible concentrations (MPC) of pollutants in the atmospheric air of urban and rural settlements |
| List 1 | : | SanPiN 1.2.3685-21 Table 1.1 Maximum permissible concentration (MPC) of pollutants in the air of urban and rural settlements |
| List 2 | : | GN 2.1.6.2309-07 Tentative safe exposure level (TSEL) of pollutants in the air of settlements |
| List 2 | : | SanPiN 1.2.3685-21 Table 1.2 Tentative Safe Exposure Levels (TSEL) of pollutants in the air of urban and rural settlements |
| List 3 | : | GN 2.1.5.2307-07 Tentative safe exposure level (TSEL) of Chemical Substances Contained in Water of Water Bodies for Economic-Potable and Social-Domestic Water Use |
| List 3 | : | SanPiN 1.2.3685-21 Table 3.14 Indicative permissible levels (TAC) of chemicals in the water of drinking systems of centralized, including hot, and non-centralized water supply, water of ground and surface water bodies of drinking and cultural and domestic water use, water of swimming pools, water parks |
| List 4 | : | GN 2.1.5.1315-03 Maximum Allowable Concentrations (MAC) of Chemical Substances Contained in Water of Water Bodies for Economic-Potable and Social-Domestic Water Use |
| List 4 | : | SanPiN 1.2.3685-21 Table 3.13 Maximum permissible con- |

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- centrations (MPC) of chemicals in the water of drinking systems of centralized, including hot, and non-centralized water supply, water of underground and surface water bodies of domestic drinking and cultural and domestic water use, water of swimming pools, water parks
- List 5 : Order of the Russian Federal Fisheries Agency "Standards of maximum permissible concentrations of harmful substances in fishery water bodies"
- List 6 : GN 2.1.7.2511-09 Guiding permissible concentration (GPC) of chemical substances in soil
- List 7 : GN 2.1.7.2041-06 Maximum permissible concentration (MPC) of chemical substances in soil
- List 7 : SanPiN 1.2.3685-21 Table 4.1 Maximum allowable concentration (MPC) and approximate allowable concentration (APC) of chemicals in the soil

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Product code: GF-3014

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

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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.

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