

# SAFETY DATA SHEET



## Curzate® 60DF

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	04/12/2022	800080000249	Date of first issue: 04/12/2022

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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 the United States and may not meet the regulatory requirements in other countries.

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### SECTION 1. IDENTIFICATION

Product name : Curzate® 60DF

#### Manufacturer or supplier's details

#### COMPANY IDENTIFICATION

**Manufacturer/importer** : CORTEVA AGRISCIENCE LLC  
9330 ZIONSVILLE RD  
INDIANAPOLIS, IN, 46268-1053  
UNITED STATES

**Customer Information Number** : 1-800-258-3033

**E-mail address** : customerinformation@corteva.com

**Emergency telephone** : INFOTRAC (CONTRACT 84224).  
800-992-5994 or 317-337-6009

#### Recommended use of the chemical and restrictions on use

**Recommended use** : Fungicide

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

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

Skin sensitization : Category 1

Reproductive toxicity : Category 2

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### GHS label elements

Hazard pictograms



Signal Word

: Warning

Hazard Statements

: H302 Harmful if swallowed.  
H317 May cause an allergic skin reaction.  
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary Statements

: **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.

**Storage:**  
P405 Store locked up.

**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

None known.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
cymoxanil (ISO)	57966-95-7	60
Sucrose	57-50-1	>= 10 - < 20
Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt	68425-94-5	>= 3 - < 10
Fumed silica (generic)	112945-52-5	>= 1 - < 3
fumaric acid	110-17-8	>= 1 - < 3

Actual concentration is withheld as a trade secret

**SECTION 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. For medical emergencies involving this product, call toll free 1-888-226-8832. See Label for Additional Precautions and Directions for Use. Information presented in Section 4 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies.
- If inhaled : Move to fresh air. If person is not breathing, call 111 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- In case of 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.
- In case of 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.
- If swallowed : If swallowed, call a poison control center or doctor immediately. 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.
- Most important symptoms and effects, both acute and delayed : Eye contact may provoke the following symptoms:  
Conjunctivitis.  
Skin contact may provoke the following symptoms:  
Local irritation  
Inhalation may provoke the following symptoms:  
Rhinitis  
Ingestion may provoke the following symptoms:

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Notes to physician : Gastrointestinal disturbance  
Nausea  
Diarrhea  
Vomiting  
: Treat symptomatically.

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### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam
- Unsuitable extinguishing media : Dry chemical
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health. Applying foam will release significant amounts of hydrogen gas that can be trapped under the foam blanket. Do not allow run-off from fire fighting to enter drains or water courses.
- 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:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides
- Specific extinguishing methods : Do not allow extinguishing medium to contact container contents. Most fire extinguishing media will cause hydrogen evolution, and once the fire is put out, may accumulate in poorly ventilated or confined areas and result in flash fire or explosion if ignited.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Use water spray to cool unopened containers.  
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.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.
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### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation.  
Avoid dust formation.  
Avoid breathing dust.  
Use personal protective equipment.  
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
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- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.  
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.  
Prevent from entering into soil, ditches, sewers, underwater.  
See Section 12, Ecological Information.
- 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.  
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.

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### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Avoid formation of respirable particles.  
Do not breathe vapors/dust.  
Do not smoke.  
Handle in accordance with good industrial hygiene and safety practice.  
Avoid exposure - obtain special instructions before use.  
Smoking, eating and drinking should be prohibited in the application area.  
Do not get on skin or clothing.  
Avoid inhalation of vapor or mist.  
Do not swallow.  
Avoid contact with skin and eyes.  
Avoid contact with eyes.  
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.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep in properly labeled containers.  
Store in accordance with the particular national regulations.
- Materials to avoid : Strong oxidizing agents

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Packaging material : Unsuitable material: None known.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Sucrose	57-50-1	TWA	10 mg/m3	ACGIH
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Total dust)	15 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
Fumed silica (generic)	112945-52-5	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA Z-3
fumaric acid	110-17-8	TWA	10 mg/m3	Dow IHG

**Engineering measures** : When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Ensure adequate ventilation, especially in confined areas.

Information presented in Section 8 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory

#### 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.  
 Provide adequate ventilation.

**Hand protection**

**Remarks** : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). **NOTICE:** The

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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 : PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:  
Coveralls worn over long-sleeved shirt and long pants  
Chemical resistant gloves made of any waterproof material  
Shoes plus socks  
Long sleeved shirt and long pants  
Applicators and other handlers must wear:
- Protective measures : Use this product in accordance with its label.  
Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.  
Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.
- 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.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : solid, granules
- Color : brown
- Odor : very faint
- Odor Threshold : not determined
- pH : No data available
- Melting point/range : No data available
- Freezing point : Not applicable
- Boiling point/boiling range : Not applicable
- Flash point : Not applicable
- Evaporation rate : Not applicable

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Flammability (solid, gas) : The product is not flammable.

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

Relative density : No data available

Density : No data available

Bulk density : 768 kg/m<sup>3</sup>

Solubility(ies)  
Water solubility : dispersible

Partition coefficient: n-octanol/water : Not applicable

Autoignition temperature : Not applicable

Viscosity  
Viscosity, dynamic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : No decomposition if stored and applied as directed.  
Stable under normal conditions.

Possibility of hazardous reactions : Stable under recommended storage conditions.  
No hazards to be specially mentioned.  
None known.

Conditions to avoid : None known.

Incompatible materials : Strong acids  
Strong bases

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:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides



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**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

- Acute oral toxicity : LD50 (Rat, male and female): 433 mg/kg  
Method: OECD Test Guideline 401
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5.0 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402

**Components:****cymoxanil (ISO):**

- Acute oral toxicity : LD50 (Rat): 960 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

**Sucrose:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

**Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:**

- Acute oral toxicity : LD50 (Rat): > 4,500 mg/kg

**Fumed silica (generic):**

- Acute oral toxicity : LD50 (Rat): > 10,000 mg/kg
- Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

**fumaric acid:**

- Acute oral toxicity : LD50 (Rat, male): 10,700 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): > 1.306 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute inhalation toxicity

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Remarks: The LC50 value is greater than the Maximum Attainable Concentration.

Acute dermal toxicity : LD50 (Rabbit): > 20,000 mg/kg

**Skin corrosion/irritation****Product:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

**Components:****Sucrose:**

Species : Rabbit  
Result : No skin irritation

**Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:**

Species : Rabbit  
Result : No skin irritation

**Serious eye damage/eye irritation****Product:**

Species : Rabbit  
Result : No eye irritation  
Method : OECD Test Guideline 405

**Components:****Sucrose:**

Species : Rabbit  
Result : No eye irritation

**Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:**

Species : Rabbit  
Result : Eye irritation

**fumaric acid:**

Species : Rabbit  
Result : Eye irritation

**Respiratory or skin sensitization****Product:**

Test Type : Maximization Test  
Species : Guinea pig  
Assessment : May cause sensitization by skin contact.  
Method : OECD Test Guideline 406

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**Components:****cymoxanil (ISO):**

Species : Guinea pig  
 Assessment : Does not cause skin sensitization.

**fumaric acid:**

Species : Guinea pig  
 Assessment : Does not cause skin sensitization.

**Germ cell mutagenicity****Components:****cymoxanil (ISO):**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative in some cases and positive in other cases., Animal genetic toxicity studies were negative.

**Sucrose:**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were inconclusive., Animal genetic toxicity studies were inconclusive

**Fumed silica (generic):**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

**fumaric acid:**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative.

**Carcinogenicity****Components:****cymoxanil (ISO):**

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

**fumaric acid:**

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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**Reproductive toxicity****Components:****cymoxanil (ISO):**

Reproductive toxicity - Assessment : Suspected human reproductive toxicant  
Did not cause birth defects or any other fetal effects in laboratory animals.

**fumaric acid:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.  
Did not cause birth defects or any other fetal effects in laboratory animals.

**STOT-single exposure****Product:**

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

**Components:****Sucrose:**

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

**Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:**

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

**Fumed silica (generic):**

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

**fumaric acid:**

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

**Repeated dose toxicity****Components:****cymoxanil (ISO):**

Remarks : In animals, effects have been reported on the following organs:  
Blood  
Thymus.

**Fumed silica (generic):**

Remarks : No relevant data found.

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**fumaric acid:**

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Aspiration toxicity****Product:**

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

**Components:****cymoxanil (ISO):**

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

**Alkyl-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:**

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

**Fumed silica (generic):**

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

**fumaric acid:**

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

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 35 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 10.7 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes

**Components:****cymoxanil (ISO):**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 13.5 mg/l

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- Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 27 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EbC50 (Pseudokirchneriella subcapitata (green algae)): 0.35 mg/l  
End point: Biomass  
Exposure time: 72 h
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.067 mg/l  
End point: number of offspring  
Exposure time: 21 d  
Method: OECD Test Guideline 211 or Equivalent
- LOEC (Daphnia magna (Water flea)): 0.15 mg/l  
End point: number of offspring  
Exposure time: 21 d  
Method: OECD Test Guideline 211 or Equivalent
- M-Factor (Chronic aquatic toxicity) : 1
- Toxicity to soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): < 500 mg/kg  
Exposure time: 14 d  
End point: mortality  
Method: Other guidelines
- Toxicity to terrestrial organisms : LC50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg  
Exposure time: 1 d  
End point: mortality
- NOEC (Apis mellifera (bees)): 25 micrograms/bee  
Exposure time: 1 d  
End point: mortality
- LC50 (Colinus virginianus (Bobwhite quail)): 2,847 ppm  
Exposure time: 5 d  
End point: mortality
- Sucrose:**
- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: Method Not Specified.
- Fumed silica (generic):**
- Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l  
Exposure time: 96 h  
Method: Method Not Specified.  
Remarks: For similar material(s):
- Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l

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aquatic invertebrates      Exposure time: 48 h  
Method: Method Not Specified.  
Remarks: For similar material(s):

### **fumaric acid:**

Toxicity to fish      :    LC50 (Danio rerio (zebra fish)): > 100 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates      :    EC50 (water flea Daphnia magna): 212 mg/l  
Exposure time: 48 h  
Test Type: semi-static test  
Method: EPA-660/3-75-009

Toxicity to algae/aquatic plants      :    ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 100 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201

Toxicity to microorganisms      :    EC50 (activated sludge): > 300 mg/l  
End point: Respiration rates.  
Exposure time: 3 h  
Test Type: static test  
Method: OECD Test Guideline 209

### **Persistence and degradability**

#### **Product:**

Biodegradability      :    Result: Not readily biodegradable.

#### **Components:**

##### **cymoxanil (ISO):**

Biodegradability      :    aerobic  
Inoculum: activated sludge, domestic, non-adapted  
Concentration: 20 mg/l  
Result: Readily biodegradable.  
Biodegradation: 11 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B or Equivalent  
Remarks: 10-day Window: Fail

aerobic

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Inoculum: activated sludge, domestic, non-adapted  
Concentration: 2 mg/l  
Result: Readily biodegradable.  
Biodegradation: 14 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D or Equivalent  
Remarks: 10-day Window: Fail

**Sucrose:**

ThOD : 1.12 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)  
Sensitizer: OH radicals  
Concentration: 1,500,000 1/cm<sup>3</sup>  
Rate constant: 1.1479E-10 cm<sup>3</sup>/s  
Method: Estimated.

**Fumed silica (generic):**

Biodegradability : Remarks: Biodegradation is not applicable.

**fumaric acid:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 67.5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
Remarks: 10-day Window: Pass

**Bioaccumulative potential****Components:****cymoxanil (ISO):**

Partition coefficient: n-octanol/water : log Pow: 4.7 (68 °F / 20 °C)  
pH: 7  
Method: OECD Test Guideline 107 or Equivalent  
GLP: yes  
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Sucrose:**

Bioaccumulation : Bioconcentration factor (BCF): 3  
Method: Estimated.

Partition coefficient: n-octanol/water : Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).  
Potential for mobility in soil is very high (Koc between 0 and 50).

log Pow: -3.7 - -3.67  
Method: Estimated.  
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).



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**Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:**

Partition coefficient: n-octanol/water : Remarks: No data available for this product.

**Fumed silica (generic):**

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

**fumaric acid:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 3  
Method: Estimated.

Partition coefficient: n-octanol/water : Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

log Pow: 4.02  
Method: OECD Test Guideline 107

**Mobility in soil****Product:**

Distribution among environmental compartments : Remarks: Under actual use conditions, there is no reasonable expectation of any movement of the product from the top soil layer.

**Components:****cymoxanil (ISO):**

Distribution among environmental compartments : Koc: 2.7 - 87.1

**Sucrose:**

Distribution among environmental compartments : Koc: 3.16  
Method: Estimated.  
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

**Fumed silica (generic):**

Distribution among environmental compartments : Remarks: Expected to be relatively immobile in soil (Koc > 5000).

**fumaric acid:**

Distribution among environmental compartments : Koc: 7.33  
Method: Estimated.

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**Other adverse effects****Components:****cymoxanil (ISO):**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Sucrose:**

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:**

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Fumed silica (generic):**

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**fumaric acid:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ozone-Depletion Potential : Regulation: (Update: 07/27/2012, DJ)  
Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**SECTION 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.

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### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

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

##### IATA-DGR

UN/ID No. : UN 3077  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (Cymoxanil)  
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. (Cymoxanil)  
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.

#### Domestic regulation

##### 49 CFR

Not regulated as a dangerous good

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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.

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## SECTION 15. REGULATORY INFORMATION

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
Respiratory or skin sensitization  
Reproductive toxicity

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

#### Pennsylvania Right To Know

Sucrose	57-50-1
Sodium sulfate	7757-82-6
fumaric acid	110-17-8

#### The ingredients of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number : 352-592

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

### WARNING

May be fatal if swallowed.  
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals

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**SECTION 16. OTHER INFORMATION**

## Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

**Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	:	Dow Industrial Hygiene Guideline
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
Dow IHG / TWA	:	Time weighted average
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; 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

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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.

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