SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

OPTION™

Version	Revision Date:	SDS Number:	Date of last issue: -
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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 Great Britain and may not meet the regulatory requirements in other countries.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : OPTION™

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Fungicide

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION
Manufacturer/importer
Corteva Agriscience UK Ltd
CPC2 CAPITAL PARK
FULBOURN CAMBRIDGE - England - CB21 5XE
UNITED KINGDOM

Customer Information Number : + 44 800 689 8899
E-mail address : SDS@corteva.com

1.4 Emergency telephone number

24 Hour Emergency Telephone Number: +44 161 884 1235

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Cat-	H410: Very toxic to aquatic life with long lasting

egory 1 effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

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.
P391 Collect spillage.

Disposal:

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Hazardous components which must be listed on the label:

cymoxanil (ISO)

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
cymoxanil (ISO)	57966-95-7 261-043-0 616-035-00-5	Acute Tox. 4; H302 Repr. 2; H361 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Skin Sens. 1B; H317 STOT RE 2; H373 _____ M-Factor (Acute aquatic toxicity): 11 M-Factor (Chronic aquatic toxicity): 11	58.2
Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt	68425-94-5	Eye Irrit. 2; H319	>= 3 - < 10
fumaric acid	110-17-8 203-743-0 607-146-00-X	Eye Irrit. 2; H319	>= 1 - < 3

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.
Artificial respiration and/or oxygen may be necessary.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off immediately with soap and plenty of water.
In the case of skin irritation or allergic reactions see a physician.
Wash contaminated clothing before re-use.

If swallowed : Obtain medical attention.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
If victim is conscious:
Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : 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:
Gastrointestinal disturbance
Nausea
Diarrhoea
Vomiting

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

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 (NOx)
Carbon oxides

5.3 Advice for firefighters

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

Specific extinguishing meth- : Do not allow extinguishing medium to contact container con-

ods

tents. 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.
Use water spray to cool unopened containers.

Further information : 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 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.

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for 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 overpressurization 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.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Persons susceptible to skin sensitisation 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. 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. Do not swallow. 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.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. For environmental protection remove and wash all contaminated protective equipment before re-use. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Dispose of rinse water in accordance with local and national regulations. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store in a closed container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Store in accordance with the particular national regulations.
Advice on common storage	:	Strong oxidizing agents
Packaging material	:	Unsuitable material: None known.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Sucrose	57-50-1	Long-term exposure limit (8-hour TWA reference period)	10 mg/m3	GB EH40
		Short-term exposure limit (15-minute reference period)	20 mg/m3	GB EH40
Fumed silica (generic)	112945-52-5	Long-term exposure limit (8-hour TWA reference period) (inhalable dust)	6 mg/m3 (Silica)	GB EH40
		Long-term exposure limit (8-hour TWA reference period) (Respirable dust)	2.4 mg/m3 (Silica)	GB EH40

8.2 Exposure controls

Engineering measures

Provide for appropriate exhaust ventilation and dust collection at machinery.
Use sufficient ventilation to keep employee exposure below recommended limits.

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Gauntlets shorter than 35 cm long shall be worn under the combination sleeve. Gauntlets of 35 cm long or longer shall be worn over the combination sleeve.

Skin and body protection : Manufacturing and processing work:
Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034)
Spray application - outdoor:
Tractor / sprayer with hood:
No personal body protection normally required.
Spray application - indoor:
Motorized greenhouse sprayer:

Full protective clothing Type 4 (EN 14605)
Nitrile rubber boots (EN 13832-3 / EN ISO 20345).
Nitrile rubber boots (EN 13832-3 / EN ISO 20345).
Rubber apron
Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034)
Mixer and loaders must wear:
Tractor / sprayer without hood:
Full protective clothing Type 4 (EN 14605)
Nitrile rubber boots (EN 13832-3 / EN ISO 20345).
Backpack / knapsack sprayer:
Full protective clothing Type 4 (EN 14605)
Nitrile rubber boots (EN 13832-3 / EN ISO 20345).
Mechanical automatized spray application in closed tunnel:
No personal body protection normally required.
To optimize the ergonomy it may be recommended to use cotton underwear when wearing some fabrics. Take advice from supplier.
Garment materials that are resistant to both water vapour and air will maximise wearing comfort. Materials should be robust to maintain the integrity and barrier in use.
The permeation resistance of the fabric must be verified independently of the « type » protection recommended, to ensure an appropriate performance level of the material adequate to the corresponding agent and type of exposure.
When exceptional circumstances would require an access to the treatedarea before the end of re-entry periods, wear full protective clothingType 6 (EN 13034), nitrile rubber gloves class 2 (EN 374) and nitrilerubber boots (EN 13832-3 / EN ISO 20345).

Respiratory protection : Manufacturing and processing work:
Half mask with a particle filter FFP1 (EN149)

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
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.
Only protected handlers may be in the area during application.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	solid, granules
Colour	:	brown
Odour	:	very faint
Odour 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
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	No data available
Bulk density	:	768 kg/m3
Solubility(ies)		
Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	Not applicable
Viscosity		
Viscosity, dynamic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Self-ignition	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong bases

10.6 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 (NOx)
Carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Acute oral toxicity : LD50 (Rat): > 4,500 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 inhala-

tion toxicity
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:

cymoxanil (ISO):

Species : Rabbit
Result : Mild skin irritation

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Product:

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

Components:

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Species : Rabbit
Result : Eye irritation

fumaric acid:

Species : Rabbit
Result : Eye irritation

Respiratory or skin sensitisation

Product:

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

Components:

cymoxanil (ISO):

Species : Guinea pig
Assessment : The product is a skin sensitiser, sub-category 1B.

fumaric acid:

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

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.

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.

Reproductive toxicity

Product:

Reproductive toxicity - Assessment : Suspected human reproductive toxicant

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:

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

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

fumaric acid:

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

STOT - repeated exposure

Components:

cymoxanil (ISO):

Exposure routes : Oral
Target Organs : Blood, thymus
Assessment : May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

cymoxanil (ISO):

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

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.

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:
Based on physical properties, not likely to be an aspiration hazard.

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

SECTION 12: Ecological information

12.1 Toxicity

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 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: 0.067 mg/l End point: number of offspring Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 or Equivalent LOEC: 0.15 mg/l

End point: number of offspring
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211 or Equivalent

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to soil dwelling organisms : NOEC: < 500 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: Other guidelines

Toxicity to terrestrial organisms : oral LD50: > 2,250 mg/kg
Species: Anas platyrhynchos (Mallard duck)

LC50: > 2,250 mg/kg
Exposure time: 1 d
End point: mortality
Species: Colinus virginianus (Bobwhite quail)

NOEC: 25 micrograms/bee
Exposure time: 1 d
End point: mortality
Species: Apis mellifera (bees)

LC50: 2,847 ppm
Exposure time: 5 d
End point: mortality
Species: Colinus virginianus (Bobwhite quail)

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

12.2 Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.

Components:

cymoxanil (ISO):

Biodegradability : Test Type: 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

Test Type: aerobic
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

fumaric acid:

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

12.3 Bioaccumulative potential

Components:

cymoxanil (ISO):

Partition coefficient: n-octanol/water : log Pow: 4.7 (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).

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

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

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

12.4 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

fumaric acid:

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

12.5 Results of PBT and vPvB assessment

Components:

cymoxanil (ISO):

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).

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

fumaric acid:

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).

12.6 Other adverse effects

Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Components:

cymoxanil (ISO):

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

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

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

fumaric acid:

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

13.1 Waste treatment methods

Product : 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 otherwise 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.

SECTION 14: Transport information

14.1 UN number

ADR	:	UN 3077
RID	:	UN 3077
IMDG	:	UN 3077
IATA	:	UN 3077

14.2 UN proper shipping name

ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cymoxanil)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cymoxanil)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cymoxanil)
IATA	:	Environmentally hazardous substance, solid, n.o.s. (Cymoxanil)

14.3 Transport hazard class(es)

ADR	:	9
RID	:	9
IMDG	:	9
IATA	:	9

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)

RID

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Remarks	:	Stowage category A

IATA (Cargo)

Packing instruction (cargo aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L 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.

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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E1	ENVIRONMENTAL HAZARDS
Seveso III Directive (2012/18/EU) implemented by Control of Major Accident Hazards Regulations 2015 (COMAH)	E1	ENVIRONMENTAL HAZARDS

Registration Number : MAPP 20382

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.
The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009.
Refer to the label for exposure assessment information.

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 H-Statements

H302	:	Harmful if swallowed.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H361	:	Suspected of damaging fertility or the unborn child.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Irrit.	:	Eye irritation
Repr.	:	Reproductive toxicity
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

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; CLP - Classification Labelling Packaging Regulation; Regula-

tion (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; SVHC - Substance of very high concern; 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

Further information

Other information : Take notice of the directions of use on the label.

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H302	Based on product data or assessment
Repr. 2	H361fd	Calculation method
STOT RE 2	H373	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

Product code: GF-4175

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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