SAFETY DATA SHEET

ENTRUST™ Naturalyte™ 800 WP

Version	Revision Date:	SDS Number:	Date of last issue: -
0.0	31.05.2023	800080003692	Date of first issue: 31.05.2023

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 South Africa 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 : ENTRUST™ Naturalyte™ 800 WP

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

Use of the Substance/Mixture : Plant Protection Product

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION
Manufacturer/importer
Corteva Agriscience RSA Proprietary Limited
Block A, 2nd Floor, Lakefield Office Park, 272 West Avenue
Centurion, Gauteng, 1063
SOUTH AFRICA

Customer Information Number : +27 (0) 12 683 5700
E-mail address : SDS@corteva.com

1.4 Emergency telephone number

24-Hour Local Emergency Contact: +27 82 895 0621
24-Hour Emergency Contact: +32 3 575 55 55

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Eye irritation, Category 2	H319: Causes serious eye irritation.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.

Response:

P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

Disposal:

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

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50)	168316-95-8 434-300-1 603-209-00-0	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	80
Spinosyn B	131929-61-8	Aquatic Acute 1; H400	1,42

		Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	
Naphthalenesulfonic acid, polymer with formaldehyde	9084-06-4	Aquatic Chronic 3; H412	>= 2,5 - < 3
Di-2-ethylhexyl sodium sulfosuccinate	577-11-7 209-406-4 01-2119491296-29-0046, 01-2119491296-29-0047	Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 1 - < 3
Substances with a workplace exposure limit :			
Kaolin	1332-58-7 310-194-1		>= 3 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

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.

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.

If inhaled, remove to fresh air.

In case of skin contact : Take off contaminated clothing. 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 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.
Suitable emergency eye wash facility should be immediately available.

If swallowed : No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : 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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Exposure to combustion products may be a hazard to health.
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:
Carbon oxides
Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Specific extinguishing methods : 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 : 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 : Do not breathe vapours/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Do not get in eyes.
Avoid contact with skin and 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.

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)

Specific use(s) : Plant protection products subject to Regulation (EC) No 1107/2009.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Kaolin	1332-58-7	TWA (Respirable dust)	0,1 mg/m3	2004/37/EC

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Di-2-ethylhexyl sodium sulfosuccinate	Workers	Inhalation	Long-term systemic effects	13 mg/m3
	Workers	Ingestion	Long-term systemic effects	18,8 mg/kg bw/day
	Workers	Skin contact	Long-term systemic effects	18,8 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Di-2-ethylhexyl sodium sulfosuccinate	Fresh water	0,0066 mg/l
	Marine water	0,0066 mg/l
	Intermittent use/release	0,066 mg/l
	Sewage treatment plant	122 mg/l
	Fresh water sediment	0,653 mg/kg
	Marine sediment	0,0653 mg/kg
	Soil	0,138 mg/kg

8.2 Exposure controls

Engineering measures

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.
Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

Eye/face protection	:	Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.
Hand protection		
Remarks	:	Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove is recommended to prevent contact with the solid material. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. 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.
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.
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, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Powder
Colour	:	White to off-white
Odour	:	Musty
Odour Threshold	:	No data available
pH	:	9,4 (23,4 °C) Concentration: 1 % Method: pH Electrode 1% aqueous solution.
Freezing point	:	Not applicable
Melting point/range		No data available
Boiling point/boiling range	:	Not applicable
Flash point	:	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
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	No data available
Bulk density	:	0,38 g/mL (20 °C)
Solubility(ies)		
Water solubility	:	Soluble
Auto-ignition temperature	:	Not applicable
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	No significant increase (>5C) in temperature.

Reference substance: Potassium permanganate

9.2 Other information

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 : Acids

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:
Carbon oxides
Nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5,18 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

Spinosyn B:

Acute oral toxicity : LD50 (Mouse): 3.162 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5,18 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Naphthalenesulfonic acid, polymer with formaldehyde:

Acute oral toxicity : LD50 (Rat): 3.800 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

Di-2-ethylhexyl sodium sulfosuccinate:

Acute oral toxicity : LD50 (Rat): > 2.100 mg/kg
Remarks: May cause abdominal discomfort or diarrhea.

Acute dermal toxicity : LD50 (Rabbit, male): > 10.000 mg/kg
Method: OECD Test Guideline 402

Kaolin:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Skin corrosion/irritation

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Species : Rabbit
Result : No skin irritation

Naphthalenesulfonic acid, polymer with formaldehyde:

Species : Rabbit
Result : No skin irritation

Di-2-ethylhexyl sodium sulfosuccinate:

Species : Rabbit
Result : Skin irritation

Kaolin:

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Species : Rabbit
Result : No eye irritation

Naphthalenesulfonic acid, polymer with formaldehyde:

Species : Rabbit
Result : No eye irritation

Di-2-ethylhexyl sodium sulfosuccinate:

Species : Rabbit
Result : Corrosive

Kaolin:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitisation

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

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

Spinosyn B:

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

Naphthalenesulfonic acid, polymer with formaldehyde:

Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Remarks : For similar material(s):

Di-2-ethylhexyl sodium sulfosuccinate:

Species : human
Assessment : Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

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

Spinosyn B:

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

Naphthalenesulfonic acid, polymer with formaldehyde:

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

Di-2-ethylhexyl sodium sulfosuccinate:

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

Carcinogenicity

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

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

Spinosyn B:

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

Kaolin:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Spinosyn B:

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Naphthalenesulfonic acid, polymer with formaldehyde:

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

Di-2-ethylhexyl sodium sulfosuccinate:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Available data are inadequate for evaluation of potential to cause birth defects., Available data are inadequate for evaluation of potential to cause fetotoxicity.

STOT - single exposure

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

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

Naphthalenesulfonic acid, polymer with formaldehyde:

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

Di-2-ethylhexyl sodium sulfosuccinate:

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

Kaolin:

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

Repeated dose toxicity

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Remarks : In animals, Spinosad has been shown to cause vacuolization of cells in various tissues.
Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

Spinosyn B:

Remarks : In animals, Spinosad has been shown to cause vacuolization of cells in various tissues.

Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

Naphthalenesulfonic acid, polymer with formaldehyde:

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

Di-2-ethylhexyl sodium sulfosuccinate:

Remarks : May cause abdominal discomfort or diarrhea.

Kaolin:

Remarks : Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

Aspiration toxicity

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Based on available information, aspiration hazard could not be determined.

Spinosyn B:

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

Naphthalenesulfonic acid, polymer with formaldehyde:

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

Di-2-ethylhexyl sodium sulfosuccinate:

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

Kaolin:

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

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: For the active ingredient(s):
Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
As product:

LC50 (Cyprinus carpio (Carp)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203 or Equivalent

Remarks: As product:

Toxicity to terrestrial organisms : LD50: > 2.000 mg/kg> 2000 mg/kg bodyweight.
Species: Colinus virginianus (Bobwhite quail)
GLP:yes

oral LD50: 0,49 micrograms/bee
Species: Apis mellifera (bees)
GLP:yes

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 4 g/L
Exposure time: 96 h
Method: OECD Test Guideline 203 or Equivalent

LC50 (Rainbow trout (Oncorhynchus mykiss)): 27 mg/l
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 5,9 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 or Equivalent

EC50 (Chironomus sp. (midge)): 0,014 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EbC50 (diatom Navicula sp.): 0,107 mg/l
End point: Biomass
Exposure time: 5 d

EbC50 (Pseudokirchneriella subcapitata (green algae)): 39 mg/l
Exposure time: 7 d

EC50 (Lemna gibba): 10,6 mg/l
Exposure time: 14 d

EC50 (blue-green alga Anabaena flos-aquae): 6,1 mg/l
Exposure time: 120 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms	:	(Bacteria): > 100 mg/l
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	LC50: > 970 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	dietary LC50: > 5156 mg/kg diet. Exposure time: 5 d Species: Anas platyrhynchos (Mallard duck) oral LD50: > 2000 mg/kg bodyweight. Species: Colinus virginianus (Bobwhite quail) dietary LC50: > 5253 mg/kg diet. Exposure time: 5 d Species: Colinus virginianus (Bobwhite quail) oral LD50: 0,06 micrograms/bee Exposure time: 48 h Species: Apis mellifera (bees) contact LD50: 0,05 micrograms/bee Exposure time: 48 h Species: Apis mellifera (bees)

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.

Spinosyn B:

Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 21,4 mg/l Exposure time: 48 h Test Type: semi-static test EC50 (Daphnia magna (Water flea)): 6,39 mg/l Exposure time: 48 h Test Type: semi-static test EC50 (Daphnia magna (Water flea)): 6,5 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae/aquatic plants	:	ErC50 (Navicula pelliculosa (Freshwater diatom)): 0,29 - 0,36 mg/l End point: Growth rate inhibition Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
M-Factor (Chronic aquatic	:	1

toxicity)

Toxicity to soil dwelling organisms	:	LC50: > 1.000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) GLP:yes

Naphthalenesulfonic acid, polymer with formaldehyde:

Toxicity to fish	:	LC50 (Fathead minnow (Pimephales promelas)): 100 mg/l Exposure time: 96 h Test Type: Static
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 71 mg/l Exposure time: 48 h Test Type: Static

Di-2-ethylhexyl sodium sulfosuccinate:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): 68 mg/l Exposure time: 96 h Method: Method Not Specified.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 6,6 mg/l Exposure time: 48 h

12.2 Persistence and degradability

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: < 1 % Exposure time: 28 d Method: OECD Test Guideline 301B or Equivalent Remarks: 10-day Window: Fail
Stability in water	:	Test Type: Hydrolysis pH: 5 Method: Stable Test Type: Hydrolysis pH: 7 Method: Stable Test Type: Hydrolysis Degradation half life (half-life): 200 - 259 d (25 °C) pH: 9 Test Type: Hydrolysis Degradation half life (half-life): 0,84 - 0,96 d pH: 7

Naphthalenesulfonic acid, polymer with formaldehyde:

Biodegradability	:	Result: Not biodegradable Remarks: Material is not readily biodegradable according to OECD/EEC guidelines.

Di-2-ethylhexyl sodium sulfosuccinate:

Biodegradability	:	Result: Readily biodegradable. Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Inoculum: Activated sludge, non-adapted Biodegradation: > 60 % Exposure time: 28 d Method: OECD Test Guideline 301F or Equivalent Remarks: 10-day Window: Fail
Photodegradation	:	Test Type: Half-life (indirect photolysis) Sensitiser: OH radicals Rate constant: 2,31E-11 cm3/s Method: Estimated.

12.3 Bioaccumulative potential

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Bioaccumulation	:	Species: Oncorhynchus mykiss (rainbow trout) Bioconcentration factor (BCF): 114 Remarks: For similar active ingredient(s). Spinosyn A.
Partition coefficient: n-octanol/water	:	log Pow: 4,01 Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Di-2-ethylhexyl sodium sulfosuccinate:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 3,47 - 3,78 Method: Measured
Partition coefficient: n-octanol/water	:	log Pow: 1,998 Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

12.4 Mobility in soil

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

Distribution among environmental compartments	:	Koc: 35024 Remarks: For similar material(s):

Spinosyn A.
Expected to be relatively immobile in soil (Koc > 5000).

Stability in soil : Dissipation time: 8,68 - 9,44 d
Method: Photolysis

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

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).

Spinosyn B:

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

Naphthalenesulfonic acid, polymer with formaldehyde:

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

Di-2-ethylhexyl sodium sulfosuccinate:

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

Kaolin:

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:

spinosad (ISO) (reaction mass of spinosyn A and spinosyn D in ratios between 95:5 to 50:50):

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

Spinosyn B:

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

Naphthalenesulfonic acid, polymer with formaldehyde:

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

Di-2-ethylhexyl sodium sulfosuccinate:

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

Kaolin:

Ozone-Depletion Potential : 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

UNRTDG : UN 3077

IMDG : UN 3077

IATA : UN 3077

14.2 UN proper shipping name

UNRTDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Spinosad)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Spinosad)

IATA : Environmentally hazardous substance, solid, n.o.s.
(Spinosad)

14.3 Transport hazard class(es)

UNRTDG : 9

IMDG : 9

IATA : 9

14.4 Packing group

UNRTDG
Packing group : III
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

IMDG
Marine pollutant : yes(Spinosad)

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

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

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.
Classification was done in accordance with UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Purple Book and complies with the Regulations for Hazardous Chemical Agents, 2021.

Full text of H-Statements

H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Skin Irrit.	:	Skin irritation
2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers

from the risks related to exposure to carcinogens or mutagens at work

2004/37/EC / TWA : Long term exposure limit

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; Regulation (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

Classification of the mixture:		**Classification procedure:**
Eye Irrit. 2	H319	Calculation method
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

Product code: GF-733

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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