

DYNASTY CST 125 FS

Version 7.0 Revision Date: 14.10.2019 SDS Number: S00027446900 This version replaces all previous versions.

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

1.1 Product identifier

Trade name : DYNASTY CST 125 FS
Design code : A13012B

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

Use of the Substance/Mixture : Fungicide, Seed treatment

1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG
Rosentalstrasse 67, Postfach
CH-4002 Basel
Switzerland

Telephone : +41 61 323 11 11
Telefax : +41 61 323 12 12
E-mail address of person responsible for the SDS : sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.
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.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.
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:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves.
Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Hazardous components which must be listed on the label:

1,2-benzisothiazol-3(2H)-one
2-methylisothiazol-3(2H)-one

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)
azoxystrobin (ISO)	131860-33-8 607-256-00-8	Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10	>= 2.5 - < 10

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		M-Factor (Chronic aquatic toxicity): 10	
metalaxyl-M (ISO)	70630-17-0 612-163-00-0	Acute Tox. 4; H302 Eye Dam. 1; H318	$\geq 3 - < 10$
poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-	99734-09-5	Aquatic Chronic 3; H412	$\geq 1 - < 2.5$
fludioxonil	131341-86-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	$\geq 1 - < 2.5$
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400	$\geq 0.025 - < 0.05$
2-methylisothiazol-3(2H)-one	2682-20-4 220-239-6 613-326-00-9	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	$\geq 0.0002 - < 0.0015$

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.

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- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this
container or label.
Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Nonspecific
No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : There is no specific antidote available.
Treat symptomatically.
-

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or
carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread
fire.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : As the product contains combustible organic components, fire
will produce dense black smoke containing hazardous
products of combustion (see section 10).
Exposure to decomposition products may be a hazard to
health.

5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing
apparatus.
- Further information : Do not allow run-off from fire fighting to enter drains or water
courses.
Cool closed containers exposed to fire with water spray.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

Further information on storage stability : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
titanium dioxide	13463-67-7	TWA (alveolate dust)	3 mg/m ³	CH SUVA
Further information	Inert dusts, general dust limit value; dusts are, according to present knowledge, being regarded as inert, when they are not resorbed and do not provoke an increased generation of connective tissue (fibrogenic action) and which do not provoke specific symptoms. As such dusts can influence the function of the airways by mechanical irritation, a limit value of 3 mg/m ³ applies for respirable dust, measured according to EN 481, and a limit value of 10 mg/m ³ for inhalable dust., National Institute for Occupational Safety and Health, Harm to the unborn child is not to be expected when the OEL-value is respected, See Annex 1.8.2: Inert dusts, general dust value Inert dusts are dusts that, up to present knowledge, are not resorbed, nor lead to fibrogenic action in the lungs and that do not provoke disease symptoms. Because inert dusts can lead to mechanical irritation of the respiratory system, a limit value of 3 mg/m ³ (alveolate dust), measured according to EN 481, and 10 mg/m ³ for inhalable dust applies. The limit value for inert dust only applies if no addition occurs of harmful substances like asbest, quarz etc. As inert dusts are known, e.g.: Aluminium oxide (Alundum and Corundum), Calcium carbonate (Chalk), Calcium sulphate (Gypsum), Magnesium carbonate (Magnesite), Silicium carbide (Carborundum), Starch, Titanium dioxide, Cellulose, Tin dioxide. The concentration of not inert dusts in the respiratory air, for which no limit value has been established yet, should never exceed the concentration of the inert dust.			
azoxystrobin (ISO)	131860-33-8	TWA	4 mg/m ³	Syngenta
metalaxyl-M (ISO)	70630-17-0	TWA	5 mg/m ³	Syngenta
fludioxonil	131341-86-1	TWA	5 mg/m ³	Syngenta

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

Substance name	End Use	Exposure routes	Potential health effects	Value
titanium dioxide	Workers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Oral	Long-term systemic effects	700 mg/kg
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m ³
	Consumers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	30 mg/m ³
	Workers	Inhalation	Long-term local effects	10 mg/m ³

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

Substance name	Environmental Compartment	Value
titanium dioxide	Marine water	0.0184 mg/l
	Fresh water sediment	1000 mg/kg
	Fresh water	0.184 mg/l
	Marine sediment	100 mg/kg
	Soil	100 mg/kg
propane-1,2-diol	Sewage treatment plant	100 mg/l
	Intermittent use/release	0.193 mg/l
	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Marine sediment	57.2 mg/kg
	Fresh water sediment	572 mg/kg
	Soil	50 mg/kg

8.2 Exposure controls

Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. 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 break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard

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- EN 374 derived from it.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Impervious clothing
- Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.
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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : liquid
- Colour : cream to beige
- Odour : sweetish
- Odour Threshold : No data available
- pH : 5 - 9
Concentration: 1 % w/v
- Melting point/range : No data available
- Boiling point/boiling range : > 95 °C
(1,013.25 hPa)
- Flash point : > 100 °C
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Vapour pressure : No data available

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Relative vapour density	:	No data available
Density	:	1.10 - 1.14 g/ml (20 °C)
Solubility(ies)		
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	585 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	44.1 - 415 mPa.s (40 °C)
		54.2 - 453 mPa.s (20 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Surface tension : 28.2 mN/m, 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure :
Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.34 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Components:

azoxystrobin (ISO):

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

LC50 (Rat, male): 0.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

metalaxyl-M (ISO):

Acute oral toxicity : LD50 (Rat, male): 953 mg/kg
LD50 (Rat, female): 375 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.29 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Highest attainable concentration

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg

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Assessment: The substance or mixture has no acute dermal toxicity

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Acute oral toxicity : LD50 Oral (Rat): 5,000 mg/kg

fludioxonil:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

2-methylisothiazol-3(2H)-one:

Acute oral toxicity : Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity : Assessment: The component/mixture is highly toxic after short term inhalation.

Acute dermal toxicity : Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

azoxystrobin (ISO):

Species : Rabbit
Result : No skin irritation

metalaxyl-M (ISO):

Species : Rabbit
Result : No skin irritation

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fludioxonil:

Species : Rabbit
Result : No skin irritation

1,2-benzisothiazol-3(2H)-one:

Assessment : Irritating to skin.

2-methylisothiazol-3(2H)-one:

Result : Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation

Components:

azoxystrobin (ISO):

Species : Rabbit
Result : No eye irritation

metalaxyl-M (ISO):

Species : Rabbit
Result : Risk of serious damage to eyes.

fludioxonil:

Species : Rabbit
Result : No eye irritation

1,2-benzisothiazol-3(2H)-one:

Result : Irreversible effects on the eye

2-methylisothiazol-3(2H)-one:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Test Type : Buehler Test
Species : Guinea pig
Result : The product is a skin sensitiser, sub-category 1B.

Components:

azoxystrobin (ISO):

Species : Guinea pig

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Result : Did not cause sensitisation on laboratory animals.

metalaxyl-M (ISO):

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.

fludioxonil:

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.

1,2-benzisothiazol-3(2H)-one:

Result : May cause sensitisation by skin contact.

2-methylisothiazol-3(2H)-one:

Result : The product is a skin sensitiser, sub-category 1A.

Germ cell mutagenicity

Components:

azoxystrobin (ISO):

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

metalaxyl-M (ISO):

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Germ cell mutagenicity-Assessment : In vitro tests did not show mutagenic effects

fludioxonil:

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

azoxystrobin (ISO):

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

metalaxyl-M (ISO):

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

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fludioxonil:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:

azoxystrobin (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

metalaxyl-M (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

fludioxonil:

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT - repeated exposure

Components:

metalaxyl-M (ISO):

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

Repeated dose toxicity

Components:

azoxystrobin (ISO):

Remarks : No adverse effect has been observed in chronic toxicity tests.

fludioxonil:

Remarks : No adverse effect has been observed in chronic toxicity tests.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 6.8 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 2.4 mg/l

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aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 13 mg/l
Exposure time: 72 h

NOEC (*Pseudokirchneriella subcapitata* (green algae)): 1 mg/l
End point: Growth rate
Exposure time: 72 h

Components:

azoxystrobin (ISO):

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 0.47 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Americamysis*): 0.055 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 2 mg/l
Exposure time: 96 h

NOEC (*Pseudokirchneriella subcapitata* (green algae)): 0.038 mg/l
End point: Growth rate
Exposure time: 96 h

ErC50 (*Navicula pelliculosa* (Freshwater diatom)): 0.301 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : IC50 (*Pseudomonas putida*): > 3.2 mg/l
Exposure time: 6 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.16 mg/l
Exposure time: 28 d
Species: *Oncorhynchus mykiss* (rainbow trout)

NOEC: 0.147 mg/l
Exposure time: 33 d
Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.044 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)

NOEC: 0.0095 mg/l
Exposure time: 28 d
Species: *Americamysis*

M-Factor (Chronic aquatic toxicity) : 10

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toxicity)

metalaxyl-M (ISO):

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 271 mg/l
Exposure time: 96 h
- NOEC (Pseudokirchneriella subcapitata (green algae)): 19.7 mg/l
End point: Growth rate
Exposure time: 96 h
- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
- Toxicity to fish (Chronic toxicity) : NOEC: 50 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 25 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 21 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

- Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

fludioxonil:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l
Exposure time: 96 h
- LC50 (Pimephales promelas (fathead minnow)): 0.7 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.4 mg/l
Exposure time: 48 h
- EC50 (Americamysis): 0.27 mg/l
Exposure time: 96 h
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l

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Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l

End point: Growth rate

Exposure time: 96 h

ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l

Exposure time: 96 h

NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l

End point: Growth rate

Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 1, M-Factor=1 used for transport classification

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.04 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

NOEC: 0.018 mg/l
Exposure time: 116 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.035 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

NOEC: 0.018 mg/l
Exposure time: 28 d
Species: Americamysis

M-Factor (Chronic aquatic toxicity) : 10, M-Factor=1 used for transport classification

1,2-benzisothiazol-3(2H)-one:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

2-methylisothiazol-3(2H)-one:

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 1

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Ecotoxicology Assessment

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

12.2 Persistence and degradability

Components:

azoxystrobin (ISO):

Biodegradability : Result: Not readily biodegradable.
Stability in water : Degradation half life: 214 d
Remarks: The substance is stable in water.

metalaxyl-M (ISO):

Biodegradability : Result: Not readily biodegradable.
Stability in water : Degradation half life: 22.4 - 47.5 d
Remarks: Product is not persistent.

fludioxonil:

Biodegradability : Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

azoxystrobin (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

metalaxyl-M (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.
Partition coefficient: n-octanol/water : log Pow: 1.71 (25 °C)

fludioxonil:

Bioaccumulation : Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water : log Pow: 4.12 (25 °C)

12.4 Mobility in soil

Components:

azoxystrobin (ISO):

Distribution among environmental compartments : Remarks: Azoxystrobin has low to very high mobility in soil.

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Stability in soil : Dissipation time: 80 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

metalaxyl-M (ISO):

Distribution among environmental compartments : Remarks: Metalaxyl has a range from low to very high mobility in soil depending on soil type.

Stability in soil : Dissipation time: < 50 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

fludioxonil:

Distribution among environmental compartments : Remarks: immobile

Stability in soil : Dissipation time: 14 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

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:

azoxystrobin (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)..

metalaxyl-M (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)..

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

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)..

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fludioxonil:

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

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number

ADN : UN 3082
ADR : UN 3082
RID : UN 3082
IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN)
ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN)
RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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IATA : N.O.S.
(AZOXYSTROBIN)
: Environmentally hazardous substance, liquid, n.o.s.
(AZOXYSTROBIN)

14.3 Transport hazard class(es)

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

14.4 Packing group

ADN
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

ADR
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)
Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Class 9 - Miscellaneous dangerous substances and articles

IATA (Passenger)
Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Class 9 - Miscellaneous dangerous substances and articles

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14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 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.

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Quantity 1

Quantity 2

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E1	ENVIRONMENTAL HAZARDS	100 t	200 t
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Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of H-Statements

H301 : Toxic if swallowed.
H302 : Harmful if swallowed.
H311 : Toxic in contact with skin.
H314 : Causes severe skin burns and eye damage.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H330 : Fatal if inhaled.
H331 : Toxic if inhaled.
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

Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Eye Dam. : Serious eye damage
Skin Corr. : Skin corrosion
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
CH SUVA : Switzerland. Limit values at the work place
CH SUVA / TWA : Time Weighted Average

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ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Skin Sens. 1B	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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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