



The Syngenta logo consists of the word "syngenta" in a lowercase, white, sans-serif font, with a registered trademark symbol (®) to its upper right. The logo is set against a dark brown background.

GROUP 4 FUNGICIDE



Product registration number: MAPP 14654

UFI: Q21D-K5M0-Y006-HPEP

An Emulsion for seed treatment containing 339.2 g/l metalaxyl-M.

APRON XL is for use on seeds to be sown under permanent protection with full enclosure and controls *Pythium* in spinach, white cabbage, red cabbage, savoy cabbage, oxheart cabbage, cauliflower, broccoli, Brussels sprouts, kohlrabi, Chinese cabbage and onions.

SAFETY PRECAUTIONS

a) Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the concentrate, contaminated surfaces or treated seed.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT (disposable filtering facepiece respirator to at least EN149 FFP2, or equivalent) when cleaning equipment.

However engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

WASH HANDS AND EXPOSED SKIN before meals and after work.

b) Environmental protection

DO NOT CONTAMINATE WATER WITH THE PRODUCT OR ITS CONTAINER.

DO NOT CLEAN APPLICATION EQUIPMENT NEAR SURFACE WATER. AVOID CONTAMINATION VIA DRAINS FROM FARMYARDS AND ROADS.

To protect birds and wild mammals treated seed should not be left on the soil surface. Bury or remove spillages.

Treated seed should be precision drilled.

If seed is present on the soil surface, or if spills have occurred, then, if conditions are appropriate, the field should be harrowed and then rolled to ensure good incorporation.

DO NOT APPLY TREATED SEED FROM THE AIR.

TREATED SEED MUST NOT BE USED as food or feed.

c) Storage and disposal

EMPTY CONTAINER COMPLETELY and dispose of safely.

KEEP IN ORIGINAL CONTAINER tightly closed in a safe place.

DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

DO NOT RE-USE SACKS OR CONTAINERS THAT HAVE CONTAINED TREATED SEED for food or feed.

LABEL TREATED SEED with the appropriate precautions using printed sacks, labels or bag tags supplied.

In case of toxic or transport emergency ring +44 (0)1484 538444 any time

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

Syngenta UK Limited

CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE

Tel: Cambridge (01223) 883400

PROTECT FROM FROST

STORE IN A COOL DRY PLACE

© Syngenta AG, 2022

This product label is compliant with the CPA Voluntary Initiative (VI) guidance



L1086019 GBRI/02A PPE 4154993

20 litres

Product names marked ® or ™, the ALLIANCE FRAME logo, the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

APRON® XL

An emulsion for seed treatment containing 339.2 g/l metalaxyl-M.

Warning

Harmful if swallowed.

Causes serious eye irritation.



Keep out of reach of children.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear eye protection/face protection.

IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.

Rinse mouth.

If eye irritation persists: Get medical advice/attention.

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.

To avoid risks to human health and the environment, comply with the instructions for use.

Contains 1, 2-benzisothiazol-3-one. May produce an allergic reaction.

MAPP: 14654 **UFI:** Q21D-K5M0-Y006-HPEP

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL SEED TREATMENT

For use on	Maximum Individual Dose	Maximum Number of Treatments	Latest Time of application
Spinach (seed), cabbage (seed), cauliflower (seed), broccoli/calabrese (seed), Brussels sprouts (seed), kohlrabi (seed), Chinese cabbage (seed) and bulb onion (seed)	0.5 ml/kg seed	One per batch	Pre-drilling

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTISE FOR USING PLANT PROTECTION PRODUCTS.

This leaflet is part of the approved Product Label.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

DISEASES CONTROLLED

APRON® XL is an emulsion formulation for seed treatment containing 339.2 g/l metalaxyl-M. The product is intended for use as a seed treatment for protection against infestation of *Pythium* spp in a range of vegetable crops.

CROP SPECIFIC INFORMATION

Crops

Seeds treated with Apron XL must only be sown under 'permanent protection' situations which provide full enclosure (including continuous top and side barriers down to below ground level) and which are present and maintained over a number of years.

Spinach

For the control of *Pythium* spp. Limited data indicates that in spinach activity against *Pythium* spp. can be variable depending on the composition of the population. During the period December until February the soil should be covered after drilling to encourage germination. This could be either fleece or a plastic tunnel.

Dose rate: 0.5 ml APRON XL per kg of seed.

Cabbage Seed (White cabbage, red cabbage, savoy cabbage, oxheart cabbage, Chinese cabbage), cauliflower, broccoli/ calabrese, Brussels sprouts, kohlrabi and onions.

For the control of *Pythium* spp.

Dose Rate: 0.5 ml APRON XL per kg seed

Timing

Before drilling

MIXING AND APPLICATION

APRON XL should be applied through continuous flow or batch seed treaters. Adequate seed coverage should be obtained if APRON XL is added during the mixing of the seeds. Calibration of the dose rates needs to be done before use. The method depends on the equipment used. Consult the manual for the machine or seek further advice from Syngenta. The treatment equipment used should be a closed system in order to minimise the risk of contact with the product. Safety precautions should be followed throughout.

APRON XL is usually applied during the process of pelleting vegetable seeds. Pelletting requires specialist equipment. If necessary Syngenta UK Limited can be consulted for advice on application during the pelleting process.

Mixing Procedure

1. Calculate the quantity of seeds to be treated.
2. Calculate the dose rate of product to be applied
3. Prepare the mixture. It is normal to use a mixture of 50% water to 50% product but this also depends on the application machinery being used. A dilution rate of four parts water to one of product is usually the maximum dilution rate used.
4. Ensure that there is good agitation to keep the product evenly suspended.
5. Ensure that the application equipment is properly calibrated for the seed to be treated.
6. Apply the product. Do not leave the mixed slurry for any period without agitation.

Storage after Treatment

Ensure seed is of a satisfactory moisture content before storage. Keep in a dry place, correctly labelled.

Treated seed not drilled in the intended season of use may be stored for drilling one season later. Stored seed should be kept secure in a cool dry location.

Drilling

The sowing / drilling method appropriate for the crop should be followed. APRON XL does not have any known adverse effect on the drilling method.

COMPANY ADVISORY INFORMATION

Resistance:

APRON XL contains a phenylamide fungicide. A number of diseases, including *Pythium* species, have developed resistance to phenylamides. Strains of diseases including "downy mildew" resistant to the phenylamide group of fungicides, which includes metalaxyl-M are known to occur in some regions of the United Kingdom. Where strains of pathogens resistant to metalaxyl-M develop APRON XL may not give satisfactory control of the disease. Where there is a known resistance problem with metalaxyl-M growers should seek other methods of disease control.

While fungicides such as metalaxyl-M are an important tool for minimising the effect of pathogens on crops growers should always seek to combine fungicidal seed treatment with appropriate cultural methods for reducing diseases. Clean healthy seed should be used, and where possible, varieties should be selected which offer resistance or tolerance of commercially important pathogens. Use of these techniques should also be supported by optimising the growing conditions for the crop so as to minimise the impact of pathogens on the health of the crop.

Contact your APRON XL distributor or Syngenta UK Limited if you believe you have a problem.

SEED BAG LABEL

This seed has been treated with APRON XL (MAPP 14654)

Contains metalaxyl-M and protects against *Pythium* spp. in a range of vegetable seed crops.

Seeds treated with Apron XL must only be sown under 'permanent protection' situations which provide full enclosure (including continuous top and side barriers down to below ground level) and which are present and maintained over a number of years.

SAFETY PRECAUTIONS

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) when handling treated seed.

To protect birds and wild mammals treated seed should not be left on the soil surface. Bury or remove spillages.

THIS SEED HAS BEEN CHEMICALLY TREATED

Treated seed should be precision drilled

If seed is present on the soil surface, or if spills have occurred, then, if conditions are appropriate, the field should be harrowed and then rolled to ensure good incorporation

DO NOT HANDLE seed unnecessarily

DO NOT USE TREATED SEED as food or feed

DO NOT RE-USE SACKS THAT HAVE CONTAINED TREATED SEED for food or feed

KEEP TREATED SEED SECURE from people, domestic stock / pets and wildlife at all times during storage and use

WASH HANDS AND EXPOSED SKIN before meals and after work

DO NOT APPLY TREATED SEED FROM THE AIR

Section 6 of the Health and Safety at Work Act
Additional Product Safety Information

(This section does not form part of the product label under the Control of Pesticides Regulations 1986.)

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has 'extension of use' approval or is otherwise permitted under the Control of Pesticides Regulations.

The information on this label is based on the best available information including data from test results.

Safety Data Sheet v12.0

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

1.1 Product identifier

Trade name : APRON XL

Design code : A9642C

Product Registration Number : MAPP 14654

Unique Formula Identifier (UFI): Q21D-K5M0-Y006-HPEP

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

Use of the Substance/Mixture: Fungicide, Seed treatment

Recommended restrictions on use: professional use

1.3 Details of the supplier of the safety data sheet

Company : Syngenta UK Limited
CPC4, Capital Park
Fulbourn, Cambridge CB21 5XE
United Kingdom

Telephone : +44 (0) 1223 883400

Telefax : +44 (0) 1223 882195

E-mail address of person responsible for the SDS: customer.services@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) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Acute toxicity, Category 4 - H302: Harmful if swallowed.

Eye irritation, Category 2 - H319: Causes serious eye irritation.

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:

Warning

Hazard statements:	H302 H319	Harmful if swallowed. Causes serious eye irritation.
Precautionary statements:	P102	Keep out of reach of children.
	Prevention:	
	P264	Wash skin thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P280	Wear eye protection/ face protection.
	Response:	
	P301+P312+P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
	P337+P313	If eye irritation persists: Get medical advice/ attention.
	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:
metalaxyl-M (ISO)

Additional Labelling

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

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)
metalaxyl-M (ISO)	70630-17-0 612-163-00-0	Acute Tox.4; H302 Eye Dam.1; H318	>= 30 - < 50
1,3-naphthalenedisulfonic acid, 7- hydroxy-8-[4-sulfo-1- naphthaleny]azo]-, trisodium salt	2611-82-7 220-036-2		>= 2.5 - < 10
Poly(oxy-1,2-ethanediy), -[2,4,6-tris(1-phenylethyl)phenyl]-hydroxy-	99734-09-5	Aquatic Chronic3; H412	>= 2.5 - < 10
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 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 specific concentration limit Skin Sens. 1; H317 >= 0,05 %	>= 0.0025 - < 0.025

Chemical Name	CAS No. EC No. Index-No. Registration Number	Classification	Concentration (% w/w)
Substances with a workplace exposure limit :			
Propane-1,2-diol	57-55-6 200-338-0 01-2119456809-23		>= 10 - < 20

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.

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. Fire-Fighting Measures

5.1 Extinguishing media

Extinguishing media - small fires

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires

Use alcohol-resistant foam or water spray.

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 fire-fighters

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.

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.

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.

SECTION 8. Exposure controls / Personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
metalaxyl-M (ISO)	70630-17-0	TWA	5 mg/m ³	Syngenta
propane-1,2-diol	57-55-6	TWA (particles)	10 mg/m ³	GB EH40
		TWA (Total vapour and particles)	150 ppm 474 mg/m ³	GB EH40

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
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
1,2-benzisothiazol- 3-(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m ³
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
propane-1,2-diol	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

Substance name	Environmental Compartment	Value
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 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: Tightly fitting safety goggles. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Hand protection

Remarks: No special protective equipment required.

Skin and body protection: No special protective equipment required. Select skin and body protection based on the physical job requirements.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance :	clear
Colour :	yellow
Odour :	weak
Odour Threshold :	No data available
pH :	3 - 7. Concentration: 1 % w/v
Melting point/range :	No data available
Boiling point/boiling range :	> 90 °C (1,013.25 hPa)
Flash point :	Method: Seto closed cup, does not flash
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
Relative vapour density :	No data available
Density :	1.07 g/cm ³ (20 °C)
Solubility in other solvents :	No data available
Partition coefficient: noctanol/water:	No data available
Auto-ignition temperature :	435 °C
Decomposition temperature :	No data available
Viscosity, dynamic :	44.2 mPa.s (20 °C) 16.2 mPa.s (40 °C)
Viscosity, kinematic :	No data available
Explosive properties :	Not explosive
Oxidizing properties :	The substance or mixture is not classified as oxidizing

9.2 Other Information

Surface tension : 27.1 mN/m, 100 %, 20 °C
Particle size : No data available

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.

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): > 1,000 - < 3,000 mg/kg
Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:

metalaxyl-M (ISO):

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

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
Acute oral toxicity : LD50 (Rat, male): 670 mg/kg
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

metalaxyl-M (ISO):

Species : Rabbit
Result : No skin irritation

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

Species : Rabbit
Result : Mild skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Components:

metalaxyl-M (ISO):

Species : Rabbit

Result : Risk of serious damage to eyes.

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

Species : Rabbit

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Test Type : Buehler Test

Species : Guinea pig

Result : Did not cause sensitisation on laboratory animals.

Components:

metalaxyl-M (ISO):

Species : Guinea pig

Result : Did not cause sensitisation on laboratory animals.

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

Result : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Components:

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

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

Germ cell mutagenicity- Assessment: Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Components:

metalaxyl-M (ISO):

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

Reproductive toxicity

Components:

metalaxyl-M (ISO):

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.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

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)): 54.4 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic plants:

ErC50 (*Desmodesmus subspicatus* (green algae)): > 100 mg/l

Exposure time: 72 h

NOEC (*Desmodesmus subspicatus* (green algae)): 32 mg/l

	End point: Growth rate Exposure time: 72 h
Components: metalaxyl-M (ISO):	
Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 271 mg/l Exposure time: 96 h NOEC (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 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: <i>Oncorhynchus mykiss</i> (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 25 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea)
poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:	
Toxicity to fish :	LC50 (<i>Danio rerio</i> (zebra fish)): 21 mg/l Exposure time: 96 h
Ecotoxicology Assessment	
Chronic aquatic toxicity :	Harmful to aquatic life with long lasting effects.
1,2-benzisothiazol-3(2H)-one:	
Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 2.18 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 2.94 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.15 mg/l Exposure time: 72 h EC10 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.04 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity):	1
Toxicity to fish (Chronic toxicity):	NOEC: 0.3 mg/l Exposure time: 28 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1.7 mg/l Exposure time: 21 d Species: <i>Daphnia</i> (water flea)

12.2 Persistence and degradability

Components:

metalaxyl-M (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 22.4 - 47.5 d

Remarks: Product is not persistent.

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

Biodegradability : Result: rapidly degradable

12.3 Bioaccumulative potential

Components:

metalaxyl-M (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: noctanol/water: log Pow: 1.71 (25 °C)

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

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

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.

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:

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).

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

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.

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 for local recycling or waste disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport 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 regulation/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII): Not applicable

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

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: 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. Not applicable

Other regulations:

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

H302 : Harmful if swallowed.

H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.

H318 : Causes serious eye damage.

H400 : Very toxic to aquatic life.

H411 : 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 Irrit. : Skin irritation

Skin Sens. : Skin sensitisation

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

GB EH40 / TWA : Long-term exposure limit (8-hour TWA 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; AIIIC - 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; TECL - 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

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.

