



Evagio[®] Forte

syngenta.

GROUP 21 | 40 FUNGICIDES



(b) Environmental protection

To protect aquatic organisms, respect an unsprayed buffer zone distance to surface water bodies in line with LERAP requirements.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5 m of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application.

This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) Scheme. Before each spraying operation from a horizontal boom sprayer either a LERAP must be carried out in accordance with CRD published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for inspection for three years.

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.

(c) Storage and Disposal

KEEP IN ORIGINAL CONTAINER tightly closed, in a safe place. **RINSE CONTAINER THOROUGHLY** by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

Product registration number: MAPP 20854
UFT: 9PQ7-FOSV-000J-XCTR

A suspension concentrate fungicide containing 100 g/L of amisulbrom and 200 g/L of mandipropamid.

For the control of Foliar blight (*Phytophthora infestans*) in potatoes.

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

In case of toxic or transport emergency ring
+44 (0) 1484 538444 (24hr)

STORE IN A COOL, DRY PLACE. PROTECT FROM FROST.

Safety Precautions

(a) Operator protection

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

WEAR SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate. However engineering control may replace personal protective equipment if COSHH assessment shows that they provide an equal or higher standard of protection. **KEEP OUT OF THE REACH OF CHILDREN.**

Do not eat, drink or smoke when using the product. **WASH HANDS AND EXPOSED SKIN** before meals and after work.

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



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5 litres

L1117787 GBRI/04C PPE 4205704

A suspension concentrate containing 100 g/L of amisulbrom and 200 g/L of mandipropamid.



Warning

Causes serious eye irritation.

Suspected of causing cancer.

Very toxic to aquatic life with long lasting effects.

Obtain special instructions before use.

Wear protective gloves/eye protection/face protection.

IF exposed or concerned: get medical advice/attention.

If eye irritation persists: get medical advice/attention.

Collect spillage.

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.

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

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

MAPP 20854 UFI: 9PQ7-F0SV-000J-XCTR

IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL FUNGICIDE

Crop	Maximum individual dose (L/ha)	Maximum total dose (L/ha)	Maximum number of treatments (per crop)	Minimum spray interval (days)	Latest time of application
Potato	0.6	1.8	3	6	7 days before harvest

READ LABEL BEFORE USE: USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE: FOLLOW THE CODE OF PRACTICE 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.

EVAGIO® FORTE can be used on all varieties of potatoes including seed potatoes.

PROPERTIES OF EVAGIO FORTE

EVAGIO FORTE is a foliar fungicide for the preventative control of foliar blight (*Phytophthora infestans*) in potatoes and is highly active against spore germination. Uptake into the leaf tissues assures good translaminar and local systemic activity and inhibits mycelial growth during the incubation period. By reducing foliar blight, EVAGIO FORTE can also reduce the incidence of tuber blight.

DISEASE CONTROLLED

Control of foliar blight (*Phytophthora infestans*) in potatoes.

BACKGROUND TO POTATO BLIGHT CONTROL

Foliar blight (*Phytophthora infestans*) is potentially a devastating disease of potatoes. In commercial production, a season long disease prevention policy is essential. First of all ensure that other control methods are being satisfactorily applied:

1. Prevent re-growth on potato dumps.
2. Destroy all groundkeepers.
3. Plant disease free seed.
4. Use generous soil ridges to protect tubers.

Integrate this approach with a fungicide programme:

Early Crops

In first and second early potato crops, particularly those grown in the same locality as main crop potatoes, an adequate and full blight protection programme should be applied right up to harvesting or haulm desiccation. This will protect the early crop while helping to reduce disease risk to later crops.

Maincrops

Disease prevention programmes require regular and season long fungicide use to limit foliar blight development. However, as an effective fungicide programme will preserve leaf area there may be more risk of infecting tubers at harvest, particularly during "heavy" blight years. Completion of the control programme should therefore include a complete haulm desiccant. Lifting of the crop should not take place for at least 10 days after COMPLETE KILL of the haulm. Crops intended for storage should not be lifted while there is any green tissue AT ALL on the leaves or stem bases.

Blight Risk Assessment

The risk of disease is affected by weather conditions (during the crop life) and crop location:

Weather Conditions

Spread of disease occurs under warm, humid conditions. Preferably use a reliable decision support system to determine what frequency of fungicide treatment is appropriate and fungicide type required.

Crop Location

Locations with the highest probability of blight problems are:

1. Areas of the country where extensive main crop or early production takes place e.g. East Anglia, the south west or the west.
2. Areas where climatic conditions that encourage disease development occur on a frequent basis e.g. The south west, the west and the Fens.

TIMING

EVAGIO FORTE is a protectant fungicide so following good agricultural practice the programme should start BEFORE blight enters the crop. Commence spraying at the first blight warning or when local weather conditions are favourable for the disease.

Intervals between applications of EVAGIO FORTE should be reduced as blight risk increases, so that protection of the crop can be maintained. Applications of EVAGIO FORTE should be made at 7-10 day intervals depending on disease pressure. As disease pressure and the risk of foliar blight infection increase, the interval should be shortened.

Rates of Use

Apply EVAGIO FORTE at 0.6 L product per hectare. Up to three applications may be made per crop between BBCH 51 and 89. For non-flowering varieties, applications can commence from complete row closure, as first individual buds (1–2 mm) of first inflorescence visible (main stem) will normally coincide with growth stage. Allow a minimum of 6 days between applications. Applications of EVAGIO FORTE can be made up to 7 days before harvest.

MIXING AND SPRAYING

Spray Volume

Apply EVAGIO FORTE in a recommended 200-400 litres of water per hectare.

Spray Nozzles

A medium quality spray* is preferred for application of EVAGIO FORTE (* as defined by The British Crop Protection Council). A spray pressure of 2 - 3 bar is recommended.

Mixing

Make sure the sprayer is clean and set to give an even application at the correct volume. Fill the spray tank with half the required volume of clean water and start agitation. Add the required amount of EVAGIO FORTE and continue agitation whilst adding the rest of the water. Agitate the mixture thoroughly before use and continue agitation during spraying and any stoppages.

Thoroughly wash all spray equipment with water immediately after use. Drain the system completely and rinse spray tank, boom and nozzles three times with clean water until the foam and all traces of product have been removed. Do not leave the spray liquid in the sprayer for long periods (such as during meal breaks or overnight).

RESISTANCE MANAGEMENT

EVAGIO FORTE contains mandipropamid, a CAA fungicide (FRAC code no. 40) and amisulbrom, a Qi-site inhibitor (QiI) fungicide (FRAC code no. 21). To minimise the risk of resistance development in the pathogen population the following guidelines for blight fungicides (based on an average number of 12 fungicide applications/season for blight control) should be followed:

1. Where possible, use an alternating strategy using fungicides from different mode of action groups.
2. Where CAA fungicides are applied as a mixture (co-formulated or as a tank mix) up to six applications (or max. of 50% of the total number of applications) may be made per crop or season.
3. No more than 2 applications of any CAA fungicide should be made consecutively.
4. Further information on suitable tank mix products and resistance management strategies is available from FRAG and BCPC websites.

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 Plant Protection Products Regulations.

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

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

1.1 Product identifier

Trade name: EVAGIO FORTE

Design code: A22430A

Product Registration Number: MAPP 20854

Unique Formula Identifier (UFI): 9PQ7-FOSV-000J-XCTR

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

Use of the Substance/Mixture: Fungicide

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: product.technical_enquiries@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)

Carcinogenicity, Category 2 - H351: Suspected of causing cancer.

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.

Serious eye damage/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: H351 Suspected of causing cancer.

H410 Very toxic to aquatic life with long lasting effects.

H319 Causes serious eye irritation.

Precautionary statements: P201 Obtain special instructions before use.

P280 Wear protective gloves/ eye protection/ face protection.

P308+P313 IF exposed or concerned: Get medical advice/ attention.

P391 Collect spillage.

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

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:

amisulbrom (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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
mandipropamid (ISO)	374726-62-2 616-213-00-2	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 10 - < 20
amisulbrom (ISO)	348635-87-0 616-224-00-2	Eye Irrit. 2; H319 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 2.5 - < 10
residues (petroleum), catalytic re-former fractionator, sulfonated, poly-mers with formaldehyde, sodium salts	68425-94-5	Eye Irrit. 2; H319	>= 1 - < 10
bronopol (INN)	52-51-7 200-143-0 603-085-00-8	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 0.025 - < 0.1
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	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
Substances with a workplace exposure limit :			
propane-1,2-diol	57-55-6 200-338-0		>= 1 - < 10

For explanation of abbreviations see section 16.

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.

5. FIRE FIGHTING 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 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.

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 materials 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.

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 uses

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
mandipropamid (ISO)	374726-62-2	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
bronopol (INN)	Workers	Inhalation	Long-term local effects	10 mg/m ³
	Workers	Inhalation	Long-term systemic effects	3.5 mg/m ³
	Workers	Inhalation	Acute systemic effects	10.5 mg/m ³
	Workers	Inhalation	Long-term local effects	2.5 mg/m ³
	Workers	Inhalation	Acute local effects	2.5 mg/kg
	Workers	Dermal	Long-term systemic effects	2 mg/kg
	Workers	Dermal	Acute systemic effects	6 mg/kg
	Workers	Dermal	Long-term local effects	0.008 mg/cm ²
	Workers	Dermal	Acute local effects	0.008 mg/cm ²
	Consumers	Inhalation	Long-term systemic effects	0.6 mg/m ³
	Consumers	Inhalation	Acute systemic effects	1.8 mg/m ³
	Consumers	Inhalation	Long-term local effects	0.6 mg/m ³
	Consumers	Inhalation	Acute local effects	0.6 mg/m ³
1,2-benzisothiazol-3(2H)-one	Consumers	Dermal	Long-term systemic effects	0.7 mg/kg
	Consumers	Dermal	Acute systemic effects	2.1 mg/kg
	Consumers	Dermal	Long-term local effects	0.004 mg/cm ²
	Consumers	Dermal	Acute local effects	0.004 mg/cm ²
	Consumers	Oral	Long-term systemic effects	0.18 mg/kg
	Consumers	Oral	Acute systemic effects	0.5 mg/kg
	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
bronopol (INN)	Fresh water	0.01 mg/l
	Marine water	0.001 mg/l
	Fresh water - intermittent	0.003 mg/l

Substance name	Environmental Compartment	Value
	Sewage treatment plant	0.43 mg/l
	Fresh water sediment	0.041mg/kg
	Marine sediment	0.003 mg/kg
	Soil	0.5 mg/kg
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/face 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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: suspension

Colour: off-white

Odour: No data available

Odour Threshold: No data available

pH: 4 - 8, Concentration: 1 %w/v. 6.3, Concentration: 100 %w/v

Melting point/range: No data available

Boiling point/boiling range: No data available

Flash point: Method: Seta 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
Vapour pressure: No data available
Relative vapour density: No data available
Density: 1.11 g/cm³ (20 °C)
Water solubility: No data available
Solubility in other solvents: No data available
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: 470 °C
Decomposition temperature: No data available
Viscosity, kinematic: No data available
Explosives : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Particle size: No data available

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.

11. TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Product:

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

Acute inhalation toxicity: LC50 (Rat, male and female): > 2.67 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, female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:

mandipropamid (ISO):

Acute oral toxicity: LD50 (Rat, female): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat, male and female): > 5.19 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): > 5,050 mg/kg

amisulbrom (ISO):

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

Acute inhalation toxicity: LC50 (Rat): > 2.85 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity:

bronopol (INN):

Acute oral toxicity:

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

Acute dermal toxicity:

Assessment: The component/mixture is moderately toxic after single contact with skin.

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

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

propane-1,2-diol:

Acute oral toxicity:

LD50 (Rat): > 20,000 mg/kg

Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity:

LC50 (Rabbit): 317,042 mg/l

Exposure time: 2 h

Test atmosphere: dust/mist

Acute dermal toxicity:

LD50 (Rabbit): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Product:**

Species: Rabbit

Result: No skin irritation

Species: In vitro study

Method: EPISKIN Human Skin Model Test

Result: No skin irritation

Components:**mandipropamid (ISO):**

Species: Rabbit

Result: No skin irritation

amisulbrom (ISO):

Species: Rabbit

Result: No skin irritation

bronopol (INN):

Result: Irritating to skin.

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

Species: Rabbit

Result: Mild skin irritation

propane-1,2-diol:

Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit

Result: No eye irritation

Components:**mandipropamid (ISO):**

Species: Rabbit

Result: No eye irritation

amisulbrom (ISO):

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formalde-hyde, sodium salts:

Method: in vitro eye irritation test

Result: Irritation to eyes, reversing within 21 days

bronopol (INN):

Result: Risk of serious damage to eyes.

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

Species: Rabbit

Result: Risk of serious damage to eyes.

propane-1,2-diol:

Result: No eye irritation

Respiratory or skin sensitisation

Product:

Test Type: Local lymph node assay (LLNA)

Species: Mouse

Result: Does not cause skin sensitisation.

Components:

mandipropamid (ISO):

Species: Guinea pig

Result: Does not cause skin sensitisation.

amisulbrom (ISO):

Species: Guinea pig

Result: Does not cause skin sensitisation.

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

Result: Probability or evidence of skin sensitisation in humans

propane-1,2-diol:

Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

mandipropamid (ISO):

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

amisulbrom (ISO):

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

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

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

propane-1,2-diol:

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

Carcinogenicity

Components:

mandipropamid (ISO):

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

amisulbrom (ISO):

Carcinogenicity - Assessment: Limited evidence of carcinogenicity in animal studies

propane-1,2-diol:

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

Reproductive toxicity

Components:

mandipropamid (ISO):

Reproductive toxicity - Assessment: No toxicity to reproduction

amisulbrom (ISO):

Reproductive toxicity - Assessment: No toxicity to reproduction

propane-1,2-diol:

Reproductive toxicity - Assessment: No toxicity to reproduction, No effects on or via lactation

Animal testing did not show any effects on foetal development.

STOT - single exposure

Components:

bronopol (INN):

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

propane-1,2-diol:

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

STOT - repeated exposure

Components:

propane-1,2-diol:

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

Aspiration toxicity

Components:

propane-1,2-diol:

No aspiration toxicity classification

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to fish:

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 19.3 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 38.8 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): > 100 mg/l

Exposure time: 96 h

NOEC (*Raphidocelis subcapitata* (freshwater green alga)): < 0.09 mg/l

End point: Growth rate

Exposure time: 96 h

EC10 (*Raphidocelis subcapitata* (freshwater green alga)): 9.77 mg/l

End point: Growth rate

Exposure time: 96 h

Components:

mandipropamid (ISO):

Toxicity to fish:

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 4.4 mg/l

Exposure time: 96 h

LC50 (*Cyprinus carpio* (Carp)): 8.63 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 7.1 mg/l

Exposure time: 48 h

EC50 (*Crassostrea virginica* (eastern oyster)): 0.97 mg/l

Exposure time: 96 h

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): > 2.5 mg/l

Exposure time: 72 h

NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 1.3 mg/l

End point: Growth rate

Exposure time: 72 h

M-Factor (Acute aquatic toxicity):

1

Toxicity to microorganisms:

EC50 (activated sludge): > 100 mg/l

Exposure time: 3 h

Toxicity to fish (Chronic toxicity):

NOEC: 0.5 mg/l

Exposure time: 32 d

Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0.076 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea)
M-Factor (Chronic aquatic toxicity):	1
amisulbrom (ISO):	
Toxicity to fish:	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 0.0515 mg/l Exposure time: 96 h LC50 (<i>Cyprinus carpio</i> (Carp)): 0.0229 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 0.0368 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	EbC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.0225 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity):	10
M-Factor (Chronic aquatic toxicity):	10
bronopol (INN):	
Toxicity to algae/aquatic plants:	NOEC (algae): 0.0025 mg/l Exposure time: 72 h EC50 (algae): 0.068 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity):	10
M-Factor (Chronic aquatic toxicity):	1
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 icity) 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)
propane-1,2-diol:	
Toxicity to fish:	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 40,613 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates:	(<i>Ceriodaphnia dubia</i> (water flea)): 18,340 mg/l Exposure time: 48 h

Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 19,000 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates

(Chronic toxicity):

NOEC: 13,020 mg/l

Exposure time: 7 d

Species: *Ceriodaphnia dubia* (Water flea)

Test Type: semi-static test

12.2 Persistence and degradability

Components:

mandipropamid (ISO):

Biodegradability: Result: Not readily biodegradable.

Stability in water: Degradation half life: 4.5 - 26 d

Remarks: Product is not persistent.

amisulbrom (ISO):

Biodegradability: Result: Not readily biodegradable.

Stability in water: Degradation half life: 16 - 163 d

Remarks: Product is not persistent.

residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formalde-hyde, sodium salts:

Biodegradability: Result: Not readily biodegradable.

bronopol (INN):

Biodegradability: Result: Readily biodegradable.

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

Biodegradability: Result: rapidly degradable

propane-1,2-diol:

Biodegradability: Result: Readily biodegradable.

Biodegradation: 81 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

Components:

mandipropamid (ISO):

Bioaccumulation: Remarks: Low bioaccumulation potential.

Partition coefficient: n-octanol/water: log Pow: 3.2 (25 °C)

amisulbrom (ISO):

Bioaccumulation: Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water: log Pow: 4.4

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

Bioaccumulation: Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

mandipropamid (ISO):

Distribution among environmental compartments: Remarks: Low mobility in soil.

Stability in soil: Dissipation time: 26 - 178 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

amisulbrom (ISO):

Distribution among environmental compartments: Remarks: immobile

Stability in soil: Dissipation time: 3 - 13 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:

mandipropamid (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).

amisulbrom (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).

1,2-benzisothiazol-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 Endocrine disrupting properties

Product:

Assessment : 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.

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.

14. TRANSPORT INFORMATION

14.1 UN Number:

ADR	RID	IMDG	IATA
UN 3082	UN 3082	UN 3082	UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AMISULBROM, MANDIPROPAMID)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AMISULBROM, MANDIPROPAMID)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AMISULBROM, MANDIPROPAMID)

IATA : Environmentally hazardous substance, liquid, n.o.s. (AMISULBROM, MANDIPROPAMID)

14.3 Transport hazard class(es)

ADR	RID	IMDG	IATA
9	9	9	9

14.4 Packing group

ADR

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Tunnel restriction code : (-)

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

RID

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IMDG

Packing group : III

Labels : 9

EmS Code : F-A, S-F

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA (Cargo)

Packing instruction (cargo aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA (Passenger)

Packing instruction (passenger aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

14.5 Environmental hazards

	ADR	RID
	Environmentally hazardous: yes	Environmentally hazardous: yes
IMDG	IATA (Cargo)	IATA (Passenger)
Marine pollutant: yes	Environmentally hazardous: yes	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 73/78 and the IBC Code

Not applicable for product as supplied.

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

UK REACH List of restrictions (Annex 17): Conditions of restriction for the following entries should be considered: Number on list 3

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation: Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: 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

Control of Major Accident Hazards Regulations 2015 (COMAH) 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.

16. OTHER INFORMATION

Full text of H-statements	Full text of other abbreviations
H302: Harmful if swallowed.	Acute Tox.: Acute toxicity
H312: Harmful in contact with skin.	Aquatic Acute: Short-term (acute) aquatic hazard
H315: Causes skin irritation.	Aquatic Chronic: Long-term (chronic) aquatic hazard
H317: May cause an allergic skin reaction.	Carc.: Carcinogenicity
H318: Causes serious eye damage.	Eye Dam.: Serious eye damage
H319: Causes serious eye irritation.	Eye Irrit.: Eye irritation
H335: May cause respiratory irritation.	Skin Irrit.: Skin irritation
H351: Suspected of causing cancer.	Skin Sens.: Skin sensitisation
H400: Very toxic to aquatic life.	STOT SE: Specific target organ toxicity - single exposure
H410: Very toxic to aquatic life with long lasting effects.	GB EH40: UK. EH40 WEL - Workplace Exposure Limits
H411: Toxic to aquatic life with long lasting effects.	Syngenta: Syngenta Occupational Exposure Limit
	GB EH40 / TWA: Long-term exposure limit (8-hour TWA reference period)
	Syngenta / TWA: Time weighted average

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; IECS - 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; 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:

Carc. 2	H351
Aquatic Acute 1	H400
Aquatic Chronic 1	H410
2	H319

Classification procedure:

Calculation method
Calculation method
Calculation method

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.