



syngenta®

GROUP 40 | 3 FUNGICIDES

Product reg. no: MAPP 16327

AMPHORE® Plus is a suspension concentrate containing 250 g/l mandipropamid and 250 g/l difenoconazole.

For the control of Foliar blight (*Phytophthora infestans*) and moderate control of Early blight (*Alternaria solani*, *Alternaria alternata*) in potatoes.

The (COSH) 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 emergencyring +44 (0)1484 538444 any time.

**PROTECT FROM FROST
SHAKE WELL BEFORE USE**



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

**The
Voluntary
Initiative**

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AMPHORE® Plus

AMPHORE® Plus is a suspension concentrate containing 250 g/l mandipropamid and 250 g/l difenoconazole.

Warning

May be harmful if swallowed

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children

Do not eat, drink or smoke when using the product

Avoid release to the environment

Collect spillage

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



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

4 x 5 litres

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IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE

For use on potatoes

Maximum Individual Dose:	0.6 litres product per hectare
Maximum Number of Treatments:	Three per crop
Latest Time of Application:	3 days before harvest

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 PRACTICE FOR USING PLANT PROTECTION PRODUCTS

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PROTECT FROM FROST.

SHAKE WELL BEFORE USE.

L1083745 GBRI/11Z PPE 4151415 2810/2021

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.

Avoid spraying within 5m of the field boundary to reduce effects on non-target insects or other arthropods.

These buffer distances should be measured from the field boundary, which for the purposes of this labelling is defined as from the edge of non-cropped land (i.e. land taken permanently out of agricultural production, including the 1-2 m strips adjacent to hedgerows and watercourses established under the Single Payment Scheme). Cropped land includes managed buffer strips (e.g. grass strips, wild flower margins and conservation headlands), but since these are usually set up as havens for wildlife it is best practice to minimise spray drift onto them

AMPHORE PLUS can be used on all varieties of potatoes including seed potatoes.

PROPERTIES OF AMPHORE PLUS

AMPHORE PLUS is a foliar fungicide for the preventative moderate control of Early blight (*Alternaria solani*, *Alternaria alternata*) and control of Late blight (*Phytophthora infestans*) in potatoes and is highly active against spore germination. Uptake into the leaf tissue assures good translaminar activity and inhibits mycelial growth during the incubation period.

COMPANY ADVISORY INFORMATION

As part of our Product Stewardship policy, Syngenta UK Limited recommends the following precautions should also be observed:

Wear appropriate clothing – cotton overall and rubber gloves, when handling the concentrate.

Since the occurrence of resistance cannot be forecast, neither Syngenta UK Limited nor its distributors can accept responsibility for any loss or damage to crops caused by the failure of AMPHORE PLUS to control resistant strains.

DISEASE CONTROLLED

For the control of Foliar blight (*Phytophthora infestans*) and moderate control of Early blight (*Alternaria solani*, *Alternaria alternata*) in potatoes.

BACKGROUND TO POTATO BLIGHT CONTROL

Late 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.

Note: Blight forecasting has often been based on the occurrence of “Smith periods”. A “Smith period” is a 48 hour period in which the minimum temperature is 10°C or more and the relative humidity exceeds 90% for at least 11 hours during the first 24 hours and for at least 11 hours again during the final 24 hours. However, any period of warm, humid weather increases blight risk.

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.

BACKGROUND INTO ALTERNARIA CONTROL

The difenoconazole component of AMPHORE PLUS provides moderate activity against *Alternaria* spp. that cause Early blight. Primary infection can come into crops early in the rapid canopy growth phase. AMPHORE PLUS provides early protection against this and reduces the risk of secondary infection and disease progression later on when conditions become more favourable.

TIMING

AMPHORE PLUS is a protectant fungicide and therefore the spray programme must start **BEFORE** blight enters the crop. Commence spraying at the first blight warning or when local weather conditions are favourable for the disease. *Alternaria* spray applications are best timed before visual symptoms are seen or at the very earliest signs of infection.

Intervals between applications of AMPHORE PLUS should be reduced as blight risk increases, so that **protection** of the crop can be maintained.

Applications of AMPHORE PLUS should be made at 7-10 day intervals depending on disease pressure. As disease pressure and the risk of late blight infection increase, the interval should be shortened.

Rates of Use

Apply AMPHORE PLUS at 0.6 litres product per hectare. Up to three applications may be made per crop.

Applications of AMPHORE PLUS can be made up to 3 days before harvest.

MIXING AND SPRAYING

Spray Volume

Apply AMPHORE PLUS in 200-600 litres of water per hectare.

Spray Nozzles

A medium quality spray* is preferred for application of AMPHORE PLUS (* 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 AMPHORE PLUS 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.

Do not leave the spray liquid in the sprayer for long periods (such as during meal breaks or overnight).

PHYTOPHTHERA RESISTANCE MANAGEMENT

AMPHORE PLUS contains a CAA fungicide (FRAC code no. 40). To minimise the risk of resistance development in the pathogen population the following guidelines for CAA fungicides (based on an average number of 12 fungicide applications/season for blight control) should be followed:-

1. Where possible, use formulated/tank mixtures or 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. Alternatively, where CAA fungicides are applied alone (without a co-formulant or tank mix partner) a maximum of three applications (or 33% of the total number of applications) may be made per crop or season.
4. No more than 3 applications of any CAA fungicide should be made consecutively.
5. Further information on suitable tank mix products and resistance management strategies is available from FRAG and BPC websites.

ALTERNARIA RESISTANCE MANAGEMENT

AMPHORE PLUS contains a DMI fungicide (FRAC code no. 3). To minimise the risk of resistance development in the pathogen population to AMPHORE PLUS the following guidelines should be followed:-

1. Where possible use an alternating strategy using fungicides from different mode of action groups that must be active against the pathogen.
2. Further information on suitable tank mix products and resistance management strategies is available from FRAG and BPC websites.

This product is to be used only in accordance with the recommendations and instructions given on the label provided with this pack.

SAFETY PRECAUTIONS


(a) Operator protection

WASH HANDS AND EXPOSED SKIN before eating, drinking and after work
IF YOU FEEL UNWELL, seek medical advice (show label where possible)

(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. Aim spray away from water.



This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) Scheme. Before each spraying operation from a horizontal boom sprayer or broadcast air assisted 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.

RISK TO NON-TARGET INSECTS OR OTHER ARTHROPODS. See Directions for Use.

(c) Storage and disposal

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place

DO NOT RE-USE CONTAINER for any purpose

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.

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 Plant Protection Products Regulations 1995)

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 'extensions 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.

SAFETY DATA SHEET - v9.0

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product Identifier

Trade name : AMPHORE PLUS

Design code : A14576A

Product Registration Number : MAPP 16327

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

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 phone No.: +44 (0) 1484 538444

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)

Short-term (acute) aquatic hazard, Category 1 - H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1 - H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

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 : H303 May be harmful if swallowed.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : P102 Keep out of reach of children.
 P270 Do not eat, drink or smoke when using this product.
 P273 Avoid release to the environment.
 P391 Collect spillage.
 P501 Dispose of contents/container to a licensed hazardous waste

disposal

contractor or collection site except for empty triple rinsed clean

containers

which can be disposed of as nonhazardous waste.

Additional Labelling

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

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): 11 M-Factor (Chronic aquatic toxicity): 11	>= 20 - < 25
difenoconazole	119446-68-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 20 - < 25
toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 Asp. Tox. 1; H304	>= 0.1 - < 1
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	>= 0.025 - < 0.05

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 Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control centre 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 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.

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/m3	Syngenta
difenoconazole	119446-68-3	TWA	5 mg/m3	Syngenta
toluene	108-88-3	TWA	50 ppm 191 mg/m3	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	100 ppm 384 mg/m3	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		TWA	50 ppm 192 mg/m3	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
		STEL	100 ppm 384 mg/m3	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
mandipropamid (ISO)	374726-62-2	TWA	5 mg/m3	Syngenta
difenoconazole	119446-68-3	TWA	5 mg/m3	Syngenta
toluene	108-88-3	TWA	50 ppm 191 mg/m3	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	100 ppm 384 mg/m3	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		TWA	50 ppm 192 mg/m3	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
		STEL	100 ppm 384 mg/m3	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
poly(oxy-1,2-ethanediyl), alphahydro-omegahydroxy-	Workers	Inhalation	Long-term systemic effects	40.2 mg/m ³
	Workers	Dermal	Long-term systemic effects	112 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	7.14 mg/m ³
	Consumers	Dermal	Long-term systemic effects	40 mg/kg bw/day
1,2-benzisothiazol-3(2H)-one	Consumers	Oral	Long-term systemic effects	40 mg/kg bw/day
	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
toluene	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg
	Workers	Inhalation	Long-term systemic effects	192 mg/m ³
	Workers	Dermal	Long-term systemic effects	384 mg/kg
	Workers	Inhalation	Acute local effects	384 mg/m ³
	Workers	Inhalation	Acute systemic effects	384 mg/m ³
	Workers	Inhalation	Long-term local effects	192 mg/m ³
	Consumers	Oral	Long-term systemic effects	8.13 mg/kg
	Consumers	Dermal	Long-term systemic effects	226 mg/kg
	Consumers	Inhalation	Acute systemic effects	226 mg/m ³
	Consumers	Inhalation	Acute local effects	226 mg/m ³
	Consumers	Inhalation	Long-term local effects	56.5 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	56.5 mg/m ³

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
poly(oxy-1,2-ethanediyl), alphahydro-omega hydroxy-	Fresh water	273 mg/l
	Marine water	27.3 mg/l
	Fresh water sediment	1030 mg/kg dry weight (d.w.)
	Marine sediment	103 mg/kg dry weight (d.w.)
	Soil	46.4 mg/kg dry weight (d.w.)
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
toluene	Fresh water	0.68 mg/l
	Marine sediment	16.39 mg/kg
	Sewage treatment plant	13.61 mg/l
	Intermittent release	0.68 mg/l
	Marine water	0.68 mg/l
	Fresh water sediment	16.39 mg/kg
	Soil	2.89 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.

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 to brownish
Odour :	sweetish
Odour Threshold :	No data available
pH :	5 - 9
	Concentration: 1 % w/v
Melting point/range :	No data available
Boiling point/boiling range :	No data available
Flash point :	Method: Pensky-Martens 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 :	1.14 g/cm ³ (25 °C)
Solubility(ies)	
Water solubility :	No data available
Solubility in other solvents :	No data available
Partition coefficient: octanol/water:	No data available
Auto-ignition temperature :	460 °C
Decomposition temperature :	No data available
Viscosity	
Viscosity, dynamic :	61.4 - 339 mPa.s (40 °C) 91.0 - 427 mPa.s (20 °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 :	27.9 mN/m, 20 °C
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

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

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 2,958 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.12 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:

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

difenoconazole:

Acute oral toxicity : LD50 (Rat, male and female): 1,453 mg/kg

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 3,300 mg/m3

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,010 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

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

Skin corrosion/irritation

Product:

Species : Rabbit

Result : No skin irritation

Components:

mandipropamid (ISO):

Species : Rabbit

Result : No skin irritation

difenoconazole:

Species : Rabbit

Result : No skin irritation

toluene:

Species : Rabbit

Result : Irritating to skin.

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

Species : Rabbit

Result : Mild skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit

Result : No eye irritation

Components:

mandipropamid (ISO):

Species : Rabbit

Result : No eye irritation

difenoconazole:

Species : Rabbit

Result : Irritation to eyes, reversing within 7 days

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:

mandipropamid (ISO):

Species : Guinea pig

Result : Did not cause sensitisation on laboratory animals.

difenoconazole:

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:

mandipropamid (ISO):

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

difenoconazole:

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.

Carcinogenicity

Components:

mandipropamid (ISO):

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

difenoconazole:

Carcinogenicity - Assessment: Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

Components:

mandipropamid (ISO):

Reproductive toxicity - Assessment: No toxicity to reproduction

difenoconazole:

Reproductive toxicity - Assessment: No toxicity to reproduction

toluene:

Reproductive toxicity - Assessment: Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Components:

toluene:

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

STOT - repeated exposure

Components:

toluene:

Target Organs : Central nervous system

Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

mandipropamid (ISO):

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

difenoconazole:

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

Aspiration toxicity

Components:

toluene:

May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 3.1 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 2.9 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 11 mg/l Exposure time: 72 h EC10 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 4.2 mg/l End point: Growth rate Exposure time: 72 h NOEC (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.6 mg/l End point: Growth rate Exposure time: 72 h

Components:

mandipropamid (ISO):

Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 4.4 mg/l Exposure time: 96 h LC50 (<i>Cyprinus carpio</i> (Carp)): 8.63 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Crassostrea virginica</i> (eastern oyster)): 0.97 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): > 2.5 mg/l Exposure time: 72 h NOEC (<i>Raphidocelis subcapitata</i> (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: *Daphnia magna* (Water flea)

M-Factor

(Chronic aquatic toxicity): 1

Ecotoxicology Assessment

Acute aquatic toxicity :

difenoconazole:

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 1.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and
other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 0.77 mg/l
Exposure time: 48 h
EC50 (*Americamysis*): 0.15 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants:

EC50 (*Navicula pelliculosa* (Freshwater diatom)): 0.091 mg/l
Exposure time: 72 h
NOEC (*Navicula pelliculosa* (Freshwater diatom)): 0.053 mg/l
Exposure time: 72 h
ErC50 (*Desmodesmus subspicatus* (green algae)): 0.0876 mg/l
Exposure time: 72 h
EC10 (*Desmodesmus subspicatus* (green algae)): 0.015 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor

(Acute aquatic toxicity):

Toxicity to microorganisms : 10
EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

Toxicity to fish

(Chronic toxicity): NOEC: 0.0076 mg/l
Exposure time: 34 d
Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and
other aquatic invertebrates
(Chronic toxicity):

NOEC: 0.0056 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)
NOEC: 0.0023 mg/l
Exposure time: 28 d
Species: *Americamysis*

M-Factor (Chronic aquatic toxicity):	10
toluene: Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 5.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Ceriodaphnia dubia</i> (water flea)): 3.78 mg/l Exposure time: 48 h
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:

mandipropamid (ISO):

Biodegradability : Result: Not readily biodegradable.

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

Remarks: Product is not persistent.

difenoconazole:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 1 d

Remarks: Product is not persistent.

toluene:

Biodegradability : Result: Readily biodegradable.

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

Biodegradability : Result: rapidly degradable

12.3 Bioaccumulative potential

Components:

mandipropamid (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.

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

difenoconazole:

Bioaccumulation : Remarks: High bioaccumulation potential.

Partition coefficient: noctanol/ water: log Pow: 4.4 (25 °C)

toluene:

Bioaccumulation : Remarks: Does not bioaccumulate.

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.

difenoconazole:

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

Stability in soil : Dissipation time: 149 - 187 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).

difenoconazole:

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).

toluene:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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 Other adverse effects

No data available

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 : UN 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

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

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

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

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

14.3 Transport hazard class(es)

ADR : 9

RID : 9

IMDG : 9

IATA : 9

14.4 Packing group

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 : Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft): 964

Packing instruction (LQ) : Y964

Packing group : III

Labels : Miscellaneous

14.5 Environmental hazards

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.

15: REGULATORY INFORMATION

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

Relevant EU provisions transposed through retained EU law

REACH - 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

propan-2-ol

toluene (Number on list 48)

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

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

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

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

	Quantity 1	Quantity 2
E1 ENVIRONMENTAL HAZARDS	100 t	200 t

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

H225 : Highly flammable liquid and vapour.

H302 : Harmful if swallowed.

H304 : May be fatal if swallowed and enters airways.

H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.

H318 : Causes serious eye damage.

H319 : Causes serious eye irritation.
H336 : May cause drowsiness or dizziness.
H361d : Suspected of damaging the unborn child.
H373 : May cause damage to organs through prolonged or repeated exposure.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Asp. Tox. : Aspiration hazard
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT RE : Specific target organ toxicity - repeated exposure
STOT SE : Specific target organ toxicity - single exposure
2006/15/EC : Europe. Indicative occupational exposure limit values
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
2006/15/EC / TWA : Limit Value - eight hours
2006/15/EC / STEL : Short term exposure limit
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention;

PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative.

Further information

Classification of the mixture:

Aquatic Chronic 1 H410

Classification procedure:

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.

AMPHORE® Plus

AMPHORE® Plus is a suspension concentrate containing 250 g/l mandipropamid and 250 g/l difenoconazole

**Warning**

May be harmful if swallowed

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children

Do not eat, drink or smoke when using the product

Avoid release to the environment

Collect spillage

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

Product reg. no: MAPP 16327

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE

For use on potatoes

Maximum Individual Dose:	0.6 litres product per hectare
Maximum Number of Treatments:	Three per crop
Latest Time of Application:	3 days before harvest

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 PRACTICE FOR USING PLANT PROTECTION PRODUCTS

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PROTECT FROM FROST.

SHAKE WELL BEFORE USE.

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