

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

1.1. Product identifier

Product form : Mixtures
Product name : e2pro elicitor
Product code : PHC-002

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Agricultural applications

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Plant Health Care
1 Scott Place
2 Hardman St
Manchester M3 3AA

Tel. +44 (0)1494 775 111

E-mail: info@planthealthcare.co.uk

1.4. Emergency telephone number

Emergency number : 01494 775 111 (24hrs)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH annex II

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms develop, obtain medical attention.

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First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.
First-aid measures after eye contact	: Flush immediately with gently running water for 15 minutes at least. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms develop, obtain medical attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Give 100 - 200 ml of water to drink. If symptoms develop, obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Repeated and/or prolonged skin contact may cause irritation.
Symptoms/effects after eye contact	: May cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Foam. Dry powder. Carbon dioxide.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Combustible.
Hazardous decomposition products in case of fire	: Fire may produce irritating and/or toxic gases. Carbon monoxide. Carbon dioxide.

5.3. Advice for firefighters

Protection during firefighting	: As in any fire, wear self-contained breathing apparatus and full protective gear.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Use personal protective equipment as required.
Emergency procedures	: Evacuate unnecessary personnel. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin and eyes. Do not breathe dust.

6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing and eye or face protection. Where excessive dust may result, wear approved mask.
Emergency procedures	: Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin and eyes. Do not breathe dust. Wear independent breathing equipment.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Sweep or shovel spills into an appropriate container for disposal. Minimise the generation of dust. Store away from other materials.
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6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Provide appropriate exhaust ventilation at places where dust is formed. Avoid dust formation. Avoid contact with eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe dust.
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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep only in the original container in a cool well-ventilated place. Keep container closed when not in use.
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7.3. Specific end use(s)

Agricultural applications.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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8.2. Exposure controls

Appropriate engineering controls:

Provide adequate ventilation to minimise dust and/or vapour concentrations.

Hand protection:

Protective gloves. Standard EN 374 - Protective gloves against chemicals

Eye protection:

Chemical goggles or safety glasses. Standard EN 166 - Personal eye-protection

Skin and body protection:

Long sleeved protective clothing

Respiratory protection:

In case of insufficient ventilation and possible dust formation, wear suitable respiratory equipment. Half mask with a particle filter P2 (EN 143)

Environmental exposure controls:

Avoid release to the environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: Tan. light brown.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 6 - 8.5 @22°C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: completely soluble
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Not oxidising.
Explosive limits	: No data available

9.2. Other information

Bulk density : 0.47 g/cm³

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

ProAct	
LD50 oral rat	> 5050 mg/kg
LD50 dermal rat	> 5050 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 0.83 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 6 - 8.5 @22°C

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 6 - 8.5 @22°C

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Potential adverse human health effects and symptoms : May cause slight irritation to the skin. May cause eye irritation. May cause respiratory irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : A closely related harpin protein (harpinEA) is classified as practically non-toxic to birds and fish.

ProAct	
EC50 Daphnia	1473 mg/l
NOEC (acute)	626 mg/l Cladoceran (Daphnia)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

ProAct	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

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SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

14.1. UN number

UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

14.4. Packing group

Packing group : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Not regulated

- Transport by sea

Not regulated

- Air transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product