



SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1272/2008 (REACH) Annex II

HELSINKI

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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

HELSINKI

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

Recommended Use

Fungicide

Uses advised against

No information available

1.3. Details of the supplier of the safety data sheet

Supplier Address

JT Agro Ltd
1 Bell Street, Maidenhead, Berkshire,
SL6 1BU, U.K.
Tel: +44 1628 421599 Fax: +44 1628 421623

For further information, please contact

Email address

info@jtagro-cropthetics.com

1.4. Emergency telephone number

Emergency Telephone

National Chemical Emergency Centre (UK):
Tel: 01865 407333 (24 hours)

Section 2: HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Eye irritation: Category 2 – (H319)

Causes serious eye irritation.

Specific target organ toxicity: Category 3 – (H335)

May cause irritation

Acute aquatic toxicity: Category 1 – (H400)

Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1 – (H410)

Very toxic to aquatic life with long lasting effects

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Prothioconazole
- N,N-Dimethyl decanamide



Signal Word

Warning

Hazard Statements

H319 – Causes serious eye irritation.
 H335– May cause respiratory irritation.
 H410 – Very toxic to aquatic life with long lasting effects
 EUH401 – To avoid risks to human health and the environment comply with the instructions for use.
 EUH208 – Contains Flufenacet, 5-chloro-2-methyl-isothiazol-3-one / 2-methyl Isothiazol-3-one. May produce an allergic reaction

Precautionary Statements

P280 – Wear protective gloves/protective clothing/eye protection/face protection
 P308 + P311 – If exposed or concerned: Call a POISON CENTER/doctor/ physician
 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

2.3. Other hazards

No information available

Section 3: COMPOSITION/ INFORMATION ON INGREDIENTS

3.1. Mixtures

Chemical nature

Emulsifiable concentrate (EC)
 Prothioconazole 250 g/l

Hazardous components

Hazard statements according to Regulation (EC) No. 1272/2008

Chemical Name	CAS No EC-No./ REACH REG. No.	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Conc. [%]
Prothioconazole	178928-70-6	Aquatic Acute 1 H400 Aquatic Chronic 1 H410	25.00
N,N-Dimethyl decanamide	14433-76-2 238-405-1 01-2119485027-36- xxxx	Skin Irrit. 2, H315 Eye Irrit.2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412	>20.0
2-[2-(1-chlorocyclopropyl)- 2-hydroxy-3 -phenylpropyl]-2,4-dihydro- 1,2,4-triazole-3-thione		Skin Sens. 1 H317	>=0.10- <=1.0

Prothioconazole	178928-70-6	M-Factor: 10 (acute)
		M-Factor: 10 (chronic)

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move the victim to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
Skin Contact	Wash off thoroughly with plenty of soap and water, if available with polyethylene glycol 400, subsequently rinse with water. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses if present, after the first 5 minutes, then continue rinsing eyes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a physician or poison control centre immediately.

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

Symptoms	No symptoms known or expected.
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4.3. Indication of any immediate medical attention and special treatment needed

Treatment	Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.
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Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Water spray, Carbon dioxide (CO₂), Foam, Sand

Unsuitable High volume water jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur oxides, Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for fire-fighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

6.2. Environmental precautions

Do not allow to get into surface water, drains and ground water. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

Additional advice Check also for any local site procedures.

6.4. Reference to other Sections

Information regarding safe handling, see section 7.

Information regarding personal protective equipment, see section 8.

Information regarding waste disposal, see section 13.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Advice on safe handling** No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.
- Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

7.2. Conditions for safe storage, including any incompatibilities

- Requirements for storage** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Protect from frost. Keep away from direct sunlight.
- Advice on common storage** Keep away from food, drink and animal feeding-stuffs.
- Suitable materials** HDPE (high density polyethylene).

7.3. Specific end use(s)

Refer to the label and/or leaflet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Prothioconazole	178928-70-6	1.4 mg/m ³ (SK-ABS)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2. Exposure controls

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

- Respiratory protection** Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection	<p>Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.</p> <p>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.</p> <p>Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.</p> <p>Material Nitrile rubber Rate of permeability > 480 min Glove thickness > 0.4 mm Protective index Class 6 Directive Protective gloves complying with EN 374.</p>
Eye protection	<p>Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).</p>
Skin and body protection	<p>Wear standard coveralls and Category 3 Type 6 suit.</p> <p>If there is a risk of significant exposure, consider a higher protective type suit.</p> <p>Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.</p> <p>If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.</p>

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Form	Clear to slightly turbid, Liquid
Colour	Tan
Odour	Aromatic
pH	5.0 – 6.0 at 1% (23°C) (deionized water)
Flash point	> 100°C
Density	No flash point – Determination conducted up to the boiling point
Water solubility	ca. 1.02 g/cm ³ at 20°C
Partition Coefficient n-octanol /water	Dispersible Prothioconazole: log Pow: 3.82 at 20 °C at pH 7

9.2. Other information

Further safety related physical-chemical data are not known.

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Thermal decomposition Stable under normal conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions when stored and handled according to prescribed instructions.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Store only in the original container.

10.6. Hazardous decomposition

No decomposition products expected under normal conditions of use.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute oral toxicity	LD50 Rat, 500 - 2500 mg/kg Test conducted with similar formulation.
Acute inhalational toxicity	(Rat) > 5 mg/l Exposure time: 4h Highest attainable concentration Test conducted with similar formulation.
Acute dermal toxicity	LD50 Rat, >4000 mg/kg Test conducted with a similar formulation.
Skin corrosion/irritation	No skin irritation (Rabbit) Test conducted with a similar formulation.
Eye irritation	Irritating to eyes. (Rabbit) Test conducted with a similar formulation.
Sensitisation	Non-sensitizing. (Guinea pig) OECD Test Guideline 406 Test conducted with a similar formulation.

Assessment STOT Specific target organ toxicity – single exposure

Prothioconazole: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Prothioconazole did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Prothioconazole was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Prothioconazole caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Prothioconazole is related to parental toxicity.

Assessment developmental toxicity

Prothioconazole caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Prothioconazole are related to maternal toxicity.

Further information

No further toxicological information is available.

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity****Toxicity to fish**

LC50 (*Oncorhynchus mykiss* (rainbow trout)) 4.02 mg/l

Exposure time: 96 h

Test conducted with a similar formulation

Toxicity to aquatic invertebrates

EC50 (*Daphnia magna* (Water flea)) 2.9 mg/l

Exposure time: 48 h

Test conducted with a similar formulation.

Toxicity to aquatic plants

IC50 (*Raphidocelis subcapitata* (freshwater green alga)) 12.7 mg/l

Growth rate; Exposure time: 72 h

Test conducted with a similar formulation.

EC50 (*Skeletonema costatum*) 0.046 mg/l

Growth rate; Exposure time: 72 h

The value mentioned relates to the active ingredient prothioconazole.

12.2. Persistence and degradability**Biodegradability**

Prothioconazole:

Not readily biodegradable

Koc

Prothioconazole: Koc: 1765

12.3. Bioaccumulative potential

Bioaccumulation Prothioconazole: Bioconcentration factor (BCF) 19
Does not bioaccumulate.

12.4. Mobility in soil

Mobility in soil Prothioconazole: Slightly mobile in soils

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment Prothioconazole: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6. Other adverse effects

Additional ecological information No further ecological information is available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

Contaminated packaging Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times. Add washings to sprayer at time of filling.
Dispose of empty and cleaned packaging safely.
Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose.
Return large containers to supplier.
Follow advice on product label and/or leaflet.

Waste key for the unused product **02 01 08*** agrochemical waste containing hazardous substances

Section 14: TRANSPORT CONSIDERATIONS

ADR/RID/ADN

14.1	UN number	3082
14.2	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROTHIOCONAZOLE SOLUTION)
14.3	Transport hazard class(es)	9
14.4	Packing group	III
14.5	Environmental Hazards Mark	Yes

Hazard no. 90

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1	UN number	3082
14.2	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROTHIOCONAZOLE SOLUTION)
14.3	Transport hazard class(es)	9
14.4	Packing group (Labels)	III 9
14.5	Marine Pollutant	YES

IATA

14.1	UN number	3082
14.2	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROTHIOCONAZOLE SOLUTION)
14.3	Transport hazard class(es)	9
14.4	Packing group	III
14.5	Environmental Hazards	Environmentally hazardous

UK 'Carriage' Regulations

14.1	UN number	3082
14.2	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROTHIOCONAZOLE SOLUTION)
14.3	Transport hazard class(es)	9
14.4	Packing group	III
14.5	Environmental Hazards	YES
	Emergency action code	3Z

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

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

No transport in bulk according to the IBC Code.

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**UK and Northern Ireland Regulatory References**

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

Transport

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348) Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367) Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716) Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009 Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677) EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits Control of Pesticide Regulations 1986 Dangerous Substances and Explosive Atmospheres Regulations 2002

Waste Treatment

Environmental Protection Act 1990, Part II
 Environmental Protection (Duty of Care) Regulations 1991
 The Waste Management Licensing Regulations 1994 (as amended)
 Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended) Landfill Directive
 Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94) Water Resources Act 1991
 Anti-Pollution Works Regulations 1999

Further information

WHO-classification: III (Slightly hazardous)

15.2. Chemical Safety Assessment

A chemical safety assessment is not required.

Section 16: OTHER INFORMATION**Text of the hazard statements mentioned in Section 3.**

H315	Cause skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms

SI Statutory Instrument
 EH40 WEL Worker Exposure Limit
 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
 ATE Acute toxicity estimate
 CAS-Nr. Chemical Abstracts Service number
 ECx Effective concentration to x %
 EC-No. European community number
 EINECS European inventory of existing commercial substances
 ELINCS European list of notified chemical substances
 EN European Standard

EU European Union
IATA International Air Transport Association
IBC International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx Inhibition concentration to x %
IMDG International Maritime Dangerous Goods
Conc. Concentration
LCx Lethal concentration to x %
LDx Lethal dose to x %
LOEC/LOEL Lowest observed effect concentration/level
MARPOL MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S. Not otherwise specified
NOEC/NOEL No observed effect concentration/level
OECD Organization for Economic Co-operation and Development
RID Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA Time weighted average
UN United Nations
WHO World health organisation

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008

Disclaimer

The information provided in this Material 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.

End of Safety Data Sheet

