SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006

STOCKHOLM			
Revision Date	27-January-2022	**Version** 1	**Product No** JTA/UK/114
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

STOCKHOLM

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.

Skin Irritation: Category 2
H315 Causes skin irritation

Eye Irritation: Category 2
H319 Causes series eye irritation

Specific target organ toxicity – single exposure: Category 3
H335 May cause respiratory irritation

Reproductive toxicity: Category 2
H361d Suspected of damaging the unborn child

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

Labelling in accordance with 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:

- **Tebucaconazole**
- **Prothioconazole**
- **N, N-Dimethyl decanamide**

Signal word: Warning

Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.
H361d Suspected of damaging the unborn child.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
P391 Collect spillage.
P410 Protect from sunlight.
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/Tebuconazole 125:125 /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	12.76
Tebuconazole	107534-96-3 403-640-2	Acute tox. 4, H302 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410	12.76
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

Prothioconazole	178928-70-6	M-Factor: 10 (acute), 1 (chronic)
Tebuconazole	107534-96-3	M-Factor: 1 (acute), 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 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 polyethyleneglycol 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 eye. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

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

Symptoms	No symptoms known or expected.

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.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable	Use water spray, alcholol resistant foam, dry chemical or carbon dioxide
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), Sulphur oxides, Nitrogen oxides (NOx

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 and protective suit.
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. Collect and transfer the product into a properly labelled and tightly closed container.

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 Ensure adequate ventilation. No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. 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/m3 (SK-ABS)		OES BCS*
Tebuconazole	107534-96-3	0.2 mg/m3 (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.

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases following recommendations would apply.

Respiratory protection	Wear respirator with a particle filter mask (protection factor 4) conforming to European norm EN149FFP1 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	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. 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. Material: Nitrile rubber Rate of permeability: > 480 min Glove thickness: > 0.4 mm Protective index: Class 6 Directive: Protective gloves complying with EN 374.
Eye protection	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
Skin and body protection	Wear standard coveralls and Category 3 Type 6 suit. If there is a risk of significant exposure, consider a higher protective type suit. 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. 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.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Form	**Liquid, clear to slightly turbid**
Colour	Tan
Odour	Aromatic
pH	5.0 – 7.0 at 1% (23˚C) (deionized water)
Flash point	> 148˚C
Vapour pressure	No data available
Density	ca. 0.98 g/cm³ (20 °C)
Water solubility	Emulsifable
Partition Coefficient n-octanol /water	Prothioconazole: log Pow: 3.82 at 20 °C at pH 7 Tebuconazole: log pow: 3.7 N,N-Dimethyldecanamide: log pow: 2.46
Viscosity, dynamic	49.9 mPa.s (20 °C)
Surface tension	ca. 29.1 mN/m (20 °C)
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive

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
Acute inhalational toxicity	LC50 (Rat)> 5.153 mg/l Exposure time: 4h Irritating to respiratory system
Acute dermal toxicity	LD50 Rat >4000 mg/kg
Skin corrosion/irritation	Irritating to skin (rabbit)
Eye irritation	Irritating to eyes. (Rabbit)
Sensitisation	Non-sensitizing. (Guinea pig) OECD Test Guideline 406

Assessment STOT Specific target organ toxicity – single exposure
Prothioconazole: Based on available data, the classification criteria are not met.
Tebuconazole: Based on available data, the classification criteria are not met.
N,N-Dimethyldecan-1-amide: May cause respiratory irritation.

Assessment STOT Specific target organ toxicity – repeated exposure
Prothioconazole did not cause specific target organ toxicity in experimental animal studies.
Tebuconazole did not cause specific target organ toxicity in experimental animal studies.
N,N-Dimethyldecanamide 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.
Tebuconazole was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
N,N-Dimethyldecanamide was not genotoxic in a battery of in vitro tests

Assessment carcinogenicity
Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.
Tebuconazole caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Liver.
The mechanism of tumour formation is not considered to be relevant to man.
N,N-Dimethyldecanamide is not considered carcinogenic.

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.
Tebuconazole 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 Tebuconazole is related to parental toxicity.
N,N-Dimethyldecanamide is not considered a reproductive toxicant at non-maternally toxic dose levels.

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.
Tebuconazole caused developmental toxicity only at dose levels toxic to the dams. Tebuconazole caused an increased incidence of post implantation losses, an increased incidence of non-specific malformations.
N,N-Dimethyldecanamide did not cause developmental toxicity in rats and rabbits.

Aspiration Hazard
Based on available data, the classification criteria are not met.

Further information
No further toxicological information is available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 3.94 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 8.8 mg/l Exposure time: 48 h
Chronic toxicity to aquatic invertebrates	NOEC (Daphnia (water flea)): 0.010 mg/l Exposure time: 21d The value mentioned relates to the active ingredient tebuconazole.
Toxicity to aquatic plants	**IC50 (Raphidocelis subcapitata (freshwater green alga)) 9.5 mg/l** **Growth rate; Exposure time: 72 h** **ErC50 (Skeletonema costatum) 0.03278 mg/l** **Exposure time: 72 h** **The value mentioned relates to the active ingredient prothioconazole.** **EC10 (Skeletonema costatum) 0.01427 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 rapidly biodegradable
Tebuconazole: Not rapidly biodegradable
N,N-Dimethyldecanamide: rapidly biodegradable

Koc

Prothioconazole: Koc: 1765
Tebuconazole: Koc: 769

12.3. Bioaccumulative potential

Bioaccumulation

Prothioconazole: Bioconcentration factor (BCF) 19
Does not bioaccumulate.
Tebuconazole: Bioconcentration factor (BCF) 35 - 59
Does not bioaccumulate.
N,N-Dimethyldecanamide:
Does not bioaccumulate

12.4. Mobility in soil

Mobility in soil

Prothioconazole: Slightly mobile in soils
Tebuconazole: Slightly mobile in soils
N,N-Dimethyldecanamide: 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).
Tebuconazole: 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).
N,N-Dimethyldecanamide: 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 other effects to be mentioned.

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).

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. (TEBUCONAZOLE, 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. (TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION)
14.3	Transport hazard class(es)	9
14.4	Packing group	III
	(Labels)	9
14.5	Marine Pollutant	YES

IATA

14.1	UN number	3082
14.2	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEBUCONAZOLE, 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. (TEBUCONAZOLE, 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.

H302	Harmful if swallowed
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child
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

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
Conc.	Concentration
ECx	Effective concentration to x %
EH40 WEL	Worker Exposure Limit
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
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
SI	Statutory Instrument
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