



**HELIX**

Version 6 / IRL  
102000009010

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Revision Date: 28.12.2017  
Print Date: 05.02.2018

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1 Product identifier**

**Trade name** HELIX  
**Product code (UVP)** 05988667

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

**Use** Fungicide

**1.3 Details of the supplier of the safety data sheet**

**Supplier** Bayer CropScience Ltd  
Bayer Ltd  
The Atrium, Blackthorn Road  
Sandyford  
Dublin 18  
Ireland

**Telephone** +353-1-2999313

**Responsible Department** Email: [ukinfo@bayercropscience.com](mailto:ukinfo@bayercropscience.com)

**1.4 Emergency telephone no.**

**Emergency telephone no.** 00800 1020 3333 (24 hr)

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

**Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.**

Acute toxicity: Category 4  
H302 Harmful if swallowed.

Acute toxicity: Category 4  
H332 Harmful if inhaled.

Skin irritation: Category 2  
H315 Causes skin irritation.

Eye irritation: Category 2  
H319 Causes serious eye irritation.

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

Specific target organ toxicity - repeated exposure: Category 2  
H373 May cause damage to organs (Eyes) through prolonged or repeated exposure.

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

Acute aquatic toxicity: Category 1



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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:

- Prothioconazole
- Spiroxamine
- N,N-Dimethyl decanamide



Signal word: Warning

#### Hazard statements

H302 + H332 Harmful if swallowed or if inhaled.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H361d Suspected of damaging the unborn child.  
H373 May cause damage to organs (Eyes) through prolonged or repeated exposure.  
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 2-[2-(1-chlorocyclopropyl)-2-hydroxy-3-phenylpropyl]-2,4-dihydro-3H-1,2,4-triazole-3-thione, Spiroxamine. May produce an allergic reaction.

#### Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P312 Call a POISON CENTER/doctor/physician if you feel unwell.  
P501 Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site, except for triple rinsed empty containers which can be disposed of as non-hazardous waste.

### 2.3 Other hazards

No other hazards known.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

#### Chemical nature

Emulsifiable concentrate (EC)  
Prothioconazole/Spiroxamine 160:300 g/l

#### Hazardous components

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

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		REGULATION (EC) No 1272/2008	
Prothioconazole	178928-70-6	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	16.30
Spiroxamine	118134-30-8	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT RE 2, H373 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410	30.55
N,N-Dimethyl decanamide	14433-76-2 238-405-1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412	> 20

**Further information**

Prothioconazole	178928-70-6	M-Factor: 10 (acute)
		M-Factor: 10 (chronic)
Spiroxamine	118134-30-8	M-Factor: 100 (acute), 100 (chronic)
		M-Factor: 100 (acute), 100 (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**

<b>General advice</b>	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
<b>Inhalation</b>	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
<b>Skin contact</b>	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
<b>Eye contact</b>	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. Call a physician or poison control center immediately.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Call a physician or poison control center immediately.

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

<b>Symptoms</b>	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.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable** Use water spray, alcohol-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 firefighters** 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 the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and materials for containment and cleaning up

**Methods for cleaning up** 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.

**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

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<b>Advice on safe handling</b>	No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.
<b>Advice on protection against fire and explosion</b>	Keep away from heat and sources of ignition.
<b>Hygiene measures</b>	Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	
<b>Requirements for storage areas and containers</b>	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 freezing. Keep away from direct sunlight.
<b>Advice on common storage</b>	Keep away from food, drink and animal feedingstuffs.
<b>Suitable materials</b>	HDPE (high density polyethylene)
<b>7.3 Specific end use(s)</b>	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 <sup>3</sup> (SK-ABS)		OES BCS*
Spiroxamine	118134-30-8	0.6 mg/m <sup>3</sup> (SK-SEN)		OES BCS*

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

**8.2 Exposure controls****Personal protective equipment**

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

<b>Respiratory protection</b>	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.
<b>Hand protection</b>	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

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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.  
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**

<b>Form</b>	Liquid, clear to slightly turbid
<b>Colour</b>	dark yellow
<b>Odour</b>	aromatic
<b>pH</b>	6.0 - 8.0 at 1 % (23 °C) (deionized water)
<b>Flash point</b>	139 °C
<b>Ignition temperature</b>	315 °C
<b>Density</b>	ca. 0.98 g/cm <sup>3</sup> at 20 °C
<b>Water solubility</b>	emulsifiable
<b>Partition coefficient: n-octanol/water</b>	Prothioconazole: log Pow: 3.82 at 20 °C at pH 7 Spiroxamine: log Pow: 2.8 - 3.0 at 20 °C at pH 7 N,N-Dimethyldecanamide: log Pow: 2.46
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113

**9.2 Other information** Further safety related physical-chemical data are not known.

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Exposure time: 4 h  
Irritating to respiratory system.**Acute dermal toxicity** LD50 (Rat) > 4,000 mg/kg**Skin irritation** Irritating to skin. (Rabbit)**Eye irritation** Irritating to eyes. (Rabbit)**Sensitisation** Non-sensitizing. (Guinea pig)  
OECD Test Guideline 406, Magnusson & Kligman test**Assessment STOT Specific target organ toxicity – single exposure**

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

Spiroxamine: 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.

Spiroxamine caused specific target organ toxicity in experimental animal studies in dogs in the following organ(s): Eyes.

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.

Spiroxamine 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.

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

Spiroxamine 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 Spiroxamine 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.

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

N,N-Dimethyldecanamide did not cause developmental toxicity in rats and rabbits.

**Aspiration hazard**

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

**SECTION 12: ECOLOGICAL INFORMATION****12.1 Toxicity**

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 6.57 mg/l Exposure time: 96 h
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 6.3 mg/l Exposure time: 48 h
<b>Toxicity to aquatic plants</b>	IC50 (Raphidocelis subcapitata (freshwater green alga)) 0.16 mg/l Growth rate; Exposure time: 72 h 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**

<b>Biodegradability</b>	Prothioconazole: Not rapidly biodegradable Spiroxamine: Not rapidly biodegradable N,N-Dimethyldecanamide: rapidly biodegradable
<b>Koc</b>	Prothioconazole: Koc: 1765 Spiroxamine: Koc: 2415

**12.3 Bioaccumulative potential**

<b>Bioaccumulation</b>	Prothioconazole: Bioconcentration factor (BCF) 19 Does not bioaccumulate. Spiroxamine: Bioconcentration factor (BCF) 87 Does not bioaccumulate.
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N,N-Dimethyldecanamide:  
Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility in soil**

Prothioconazole: Slightly mobile in soils  
Spiroxamine: 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).  
Spiroxamine: 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**

It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.

**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.  
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 INFORMATION**

**ADR/RID/ADN**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SPIROXAMINE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90

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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	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SPIROXAMINE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

**IATA**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SPIROXAMINE SOLUTION )
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

**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.

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**SECTION 15: REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Republic of Ireland Regulations**

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.

**Supply and Use**

European Communities (Prohibition of Certain Active Substances in Plant Protection Products) Regulations 1981 (SI No 320/1981)  
European Communities (Authorization, Placing on the Market, Use and Control of Plant Protection Products) Regulations 2003 (SI No 83/2003)  
European Communities (Classification, Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations 2001 (SI No 624/2001)  
2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001 (SI No 619/2001)

**Waste Treatment**

Landfill Directive  
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)

**Further information**

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WHO-classification: II (Moderately 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.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
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.
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
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
ELV	Exposure Limit Value
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



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WHO World health organisation

**Reason for Revision:** The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 7: Handling and Storage. Section 8: Exposure Controls / Personal Protection.

**II** Safety Data Sheet according to Regulation (EU) No. 2015/830.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.