

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

**1.1 Product Identifier**

Product Name: FLEXURE  
Product Code: 107-01

*Other means of identification*

Unique Formula Identifier (UFI) 4YMK-T2WY-P301-21Y

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

Product Use: Fungicide

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

Company: Life Scientific Ltd,  
Block 4,  
Belfield Office Park,  
Beech Hill Road,  
Dublin 4  
Ireland  
Telephone: +353 (0) 1 2832024  
Email: [info@lifescientific.com](mailto:info@lifescientific.com)  
Web: [www.lifescientific.com](http://www.lifescientific.com)

**1.4 Emergency contact information**

In case of Emergency: Tel. NPIC +353 (01) 809 2166 (8.00 a.m. to 10.00 p.m. - Public)  
Tel. NPIC +353 (01) 809 2566 (Healthcare Professionals)

**Section 2. HAZARD IDENTIFICATION**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EU) No. 1272/2008**

Acute toxicity	Category 4	H302
Skin irritation	Category 2	H315
Eye irritation	Category 2	H319
Acute toxicity	Category 4	H332
Acute aquatic	Category 1	H400
Aquatic Chronic	Category 1	H410

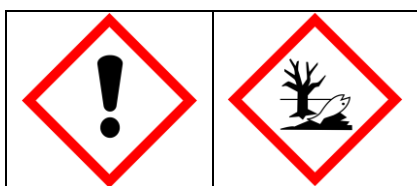
**2.2 Label Elements**

**Labelling according to Regulation (EU) 1272/2008**

Hazard components which must be listed on the label:

- Prothioconazole
- Spiroxamine
- N,N-Dimethyl decanamide

Hazard Pictograms:



**Signal Word:**

Warning

**Hazard Phrases:**

H302+H332 Harmful if swallowed or inhaled  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H410 Very toxic to aquatic life with long lasting effects

**Precautionary Phrases:**

P102 Keep out of reach of children.  
P280 Wear eye protection/face protection.  
P312 Call a POISON CENTRE or doctor/physician if you feel unwell  
P337+P313 If eye irritation persists: Get medical advice/attention  
P391 Collect spillage.  
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

**Other Phrases:**

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.  
SP 1 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).

**2.3 Other Hazards**

This 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.

**Section 3. COMPOSITION / INFORMATION ON INGREDIENTS**

**3.1 Substances**

No substances fulfil the criteria set out in Annex II, Part A of the REACH Regulation (EC) No 1907/2006.

**3.2 Mixtures**

Chemical Name	CAS	EC	Classification (Regulation (EC) No 1272/2008)	Concentration (% w/w)
Prothioconazole	178928-70-6	-	Aqua. Acute 1, H400 Aquatic Chronic 1, H410	16.3
Spiroxamine	118134-30-8	601-505-4	Acute Tox 4, H302 Acute Tox 4, H312 Skin Irrit. 2, H315 Skin sens. 1, H317 Acute Tox 4, H332 STOT RE 2, H373 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410	30.6
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), 10 (chronic)
Spiroxamine	118134-30-8	M-Factor: 100 (Acute), 100 (chronic)

**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. Call a physician or poison control center immediately.
Ingestion:	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**

Symptoms: None known.

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

Notes to physicians: 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 (NO<sub>x</sub>).

**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**

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**

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**

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

**Advice on protection against fire and explosion**

Keep away from heat and sources of ignition.

**Hygiene measures**

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.

**7.2 Conditions for safe storage, including any incompatibilities**

**Requirements for storage areas and containers**

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.

**Advice on common storage**

Keep away from food, drink and animal feeding stuffs.

**7.3 Specific end use(s)**

Refer to the label and/or leaflet.

**Section 8. EXPOSURE CONTROL/PERSONAL PROTECTION**

**8.1 Control parameters**

Component	CAS number	Control parameters	Source
Prothioconazole	178928-70-6	1.4 mg/m <sup>3</sup>	Supplier
Spiroxamine	118134-30-8	0.6 mg/ m <sup>3</sup>	Supplier

**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.

**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:** 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. 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**

Physical state	Liquid, slightly turbid
Colour:	Golden Brown.
Odour:	Aromatic
Melting point (°C):	140.3 °C based on Prothioconazole -170 °C based on Spiroxamine
Freezing point (°C):	No data available
Boiling point (°C):	No data available
Flammability:	Not flammable
Lower and upper exp. Limit:	No data available
Flash Point:	139 °C
Auto. Ignition temp (°C):	Not data available
Decomposition temp (°C):	Not data available
pH (at 20 °C):	7.0 - 9.0 at (1%)
Kinematic viscosity:	No data available
Solubility:	Dispersible
Part. Coef. m-octanol/water:	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
Vapour pressure:	No data available
Density and/or relative den.:	0.9-1.0 g/cm <sup>3</sup> at 20 °C
Relative vapour density:	Not applicable
Assessment nano particles:	This substance/ mixture does not contain nanoforms
Particle characteristics:	No data available

### **9.2 Other Information**

#### **9.2.1 Information with regard to physical hazard classes**

Explosives:	Not Explosive.
Oxidizing properties:	No oxidizing properties
Evaporation rate:	No data available

#### **9.2.2 Other safety characteristics**

None.

**Section 10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

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 material**

Store only in the original container

**10.6 Hazardous decomposition products**

No decomposition products expected under normal conditions of use.

**Section 11. TOXICOLOGICAL INFORMATION**

**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute oral toxicity:	LD <sub>50</sub> (Rat) > 500 - < 1,000 mg/kg
Acute inhalation toxicity:	LC <sub>50</sub> (Rat) ca. 2.212 mg/l Exposure time: 4 h Irritating to respiratory system.
Acute dermal toxicity:	LD <sub>50</sub> (Rat) > 4,000 mg/kg
Skin corrosion/irritation:	Irritating to skin. (Rabbit)
Serious eye damage/ eye irritation:	Irritating to eyes. (Rabbit)
Respiratory or skin 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.  
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.

**11.2 Information on other hazards**

**Endocrine disrupting properties**

Product:

Assessment: The mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Section 12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Toxicity to fish :	LC <sub>50</sub> (Oncorhynchus mykiss (rainbow trout) 6.57 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC <sub>50</sub> (Daphnia magna (Water flea) 6.3 mg/l Exposure time: 48 h
Toxicity to aquatic plants :	ErC <sub>50</sub> (Raphidocelis subcapitata (freshwater green alga)) 0.1 mg/l Growth rate; Exposure time: 72 h
	ErC <sub>50</sub> (Skeletonema costatum) 0.03278 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient prothioconazole.
	EC <sub>10</sub> (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
	Spiroxamine: Not rapidly biodegradable
	N,N-Dimethyldecanamide: Rapidly biodegradable
Koc:	Prothioconazole: Koc: 1765 Spiroxamine: Koc: 2415

**12.3 Bioaccumulative potential**

Prothioconazole:	Bioconcentration factor (BCF) 19 Does not bioaccumulate.
Spiroxamine:	Bioconcentration factor (BCF) 87 Does not bioaccumulate.
N,N-Dimethyldecanamide:	Does not bioaccumulate.

**12.4 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**

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

**12.6 Endocrine disrupting properties**

Product:

Assessment: The mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7 Other adverse effects**

None.

**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.

**Section 14. TRANSPORT INFORMATION**

Transport the product in accordance with the provisions of ADR for road, RID for rail, IMDG for the sea, and ICAO / IATA for air transport

**14.1 UN Number**

3082.

**14.2 UN 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 Environmental hazards**

Marine Pollutant: Yes

**14.6 Special precautions for user**

See sections 6 to 8 of this Safety Data Sheet.

**14.7 Maritime transport in bulk according to IMO instruments**

No transport in bulk according to the IBC Code.



**Section 15. REGULATORY INFORMATION**

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

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**

WHO-classification: II (Moderately hazardous)

**15.2 Chemical safety assessment**

A chemical safety assessment is not required.

**Section 16. OTHER INFORMATION**

**Full list of relevant hazard and precautionary statements that were not given in full in sections 2 and 3.**

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes severe 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 organisms.
H410	Very toxic to aquatic organisms with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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