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CVR No. DK 12 76 00 43

SAFETY DATA SHEET

Wolferine

Revision: Sections containing a revision or new information are marked with a ♣.

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

1.1. **Product identifier** .....

Wolverine
Contains fluxapyroxad, metconazole and propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-

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

Can be used as fungicide only.

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

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SDS.Ronland@fmc.com

1.4. **Emergency telephone number**

Medical emergencies:

Austria: +43 1 406 43 43
Belgium: +32 70 245 245
Bulgaria: +359 2 9154 409
Cyprus: 1401
Czech Republic: +420 224 919 293
+420 224 915 402
Denmark: +45 82 12 12 12
England and Wales: 111
Estonia: +372 7943500
Finland: +358 9 471 977
France: +33 (0) 1 45 42 59 59
Greece: 30 210 77 93 777
Hungary: +36 80 20 11 99
Ireland (Republic): +353 1 837 9964
Italy: +39 02 6610 1029
Latvia: +371 670 42 473
112
Lithuania: +370 523 62052
+370 687 53378
Luxembourg: +352 8002 5500
Malta: 112
Netherlands: +31 30 274 88 88
Norway: +47 22 591300
Poland: +48 22 619 66 54
+48 22 619 08 97
Portugal: 800 250 250 (in Portugal only)
+351 21 330 3284
Romania: +40 21318 3606
Scotland: +8454 24 24 24
Slovakia: +421 2 54 77 4 166
Slovenia: +386 41 650 500
South Africa: +27 83 123 3911 (Bateleur Emergency Response Co.)
Spain: +34 91 562 04 20
Sweden: +46 08-331231
112
Switzerland: 145
Turkey: 114
U.S.A. & Canada: +1 800 / 331 3148
All other countries: +1 651 / 632 6793 (Collect)

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For fire, leak, spill or other accident emergencies:

U.S.A.: +1 800 / 424 9300 (CHEMTREC)
All other countries: +1 703 / 741 5970 (CHEMTREC - Collect)

♣ SECTION 2: HAZARDS IDENTIFICATION

2.1. **Classification of the substance or mixture**

Inhalation toxicity: Category 4 (H332)
Eye irritation: Category 2 (H319)
Skin sensitisation: Category 1 (H317)
Reproduction toxicity: Category 2 (H361d)
Effects via lactation (H362)
Hazards to the aquatic environment, acute: Category 1 (H400)
chronic: Category 1 (H410)

WHO classification ..... Class U (unlikely to present acute hazard in normal use).

Health hazards ..... The product is harmful by inhalation, has irritating properties and may cause allergic sensitisation.

The active ingredient fluxapyroxad may cause harm via lactation.
Metconazole is suspected of causing harm to the unborn child.

Environmental hazards ..... The product is very toxic to aquatic organisms.

2.2. **Label elements**

According to EU Reg. 1272/2008 as amended

Product identifier ..... Wolverine
Contains fluxapyroxad, metconazole and propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-

Hazard pictograms (GHS07, GHS08, GHS09)

Signal word ..... Warning

Hazard statements
H317 ..... May cause an allergic skin reaction.
H319 ..... Causes serious eye irritation.
H332 ..... Harmful if inhaled.
H361d ..... Suspected of damaging the unborn child.
H362 ..... May cause harm to breast-fed children.
H410 ..... Very toxic to aquatic life with long lasting effects.

Supplementary hazard statement
EUH401 ..... To avoid risks to human health and the environment, comply with the instructions of use.

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Precautionary statements

P261	Avoid breathing vapours.
P263	Avoid contact during pregnancy and while nursing.
P280	Wear protective gloves, protective clothing and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or physician if you feel unwell.
P501	Dispose of contents and container as hazardous waste.

2.3. **Other hazards** ..... None of the ingredients in the product meets the criteria for being PBT or vPvB.

♣ SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances** ..... The product is a mixture, not a substance.

3.2. **Mixtures** ..... See section 16 for full text of hazard statements.

Active ingredients

Fluxapyroxad	Content: 6% by weight
CAS name	1H-Pyrazole-4-carboxamide, 3-(difluoromethyl)-1-methyl-N-(3',4',5'-trifluoro[1,1'-biphenyl]-2-yl)-
CAS no.	907204-31-3
IUPAC name	3-(Difluoromethyl)-1-methyl-N-(3',4',5'-trifluoro[1,1'-biphenyl]-2-yl)-1H-pyrazole-4-carboxamide
ISO name/EU name	Fluxapyroxad
EC no. (EINECS no.)	None
EU index no.	None
Molecular weight	381.30
Classification of the ingredient	Effects via lactation (H362) Hazards to the aquatic environment, acute: Category 1 (H400), M-factor 1 chronic: Category 1 (H410), M-factor 1

Metconazole	Content: 4% by weight
CAS name	5-[(4-Chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl) cyclopentanol
CAS no.	125116-23-6
IUPAC name	(1RS,5RS;1RS,5SR)-5-(4-Chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl) cyclopentanol
ISO name/EU name	Metconazole
EC no. (EINECS no.)	None
EU index no.	613-284-00-1
Molecular weight	319.83
Classification of the ingredient	Acute oral toxicity: Category 4 (H302) Reproduction toxicity: Category 2 (H361d) Hazards to the aquatic environment, chronic: Category 2 (H411)

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Reportable ingredients	Content (% w/w)	CAS no.	EC no. (EINECS no.)	Classification
Propanoic acid, 2-hydroxy-, 2-ethyl-hexyl ester, (2S)-	< 35	186817-80-1	None	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1B (H317)
Alcohols, C9-11, ethoxylated propoxylated	< 20	103818-93-5		Acute Tox. 4 (H302) Eye Irrit. 2 (H319)
Dimethyl sulphoxide Reg. no. 01-2119431362-50	< 15	67-68-5	200-664-3	Not classified Personal exposure limits exist.
Isotridecanol, ethoxylated	< 15	69011-36-5		Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)
Poly(oxy-1,2-ethanediyl), α-[tris(1-phenylethyl)phenyl]-ω-hydroxy-	< 5	99734-09-5	None	Aquatic Chronic 3 (H412)
2,4,6-Tris(1-phenylethyl)polyoxy-ethylenated phosphates	< 5	90093-37-1		Eye Irrit. 2 (H319)
Poly(oxy-1,2-ethanediyl), α-phenyl-ω-hydroxy-, styrenated	< 5	104376-75-2	None	Aquatic Chronic 2 (H411)

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures** — If exposure has occurred, do not wait for symptoms to develop, but immediately start the procedures described below.

Inhalation ..... If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

Skin contact ..... Immediately flush skin with much water while removing contaminated clothing and footwear. Wash with water and soap. See physician if any symptom develops.

Eye contact ..... Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. See physician if irritation persists.

Ingestion ..... Let the exposed person rinse mouth and let him/her drink several glasses of water or milk, but not induce vomiting. If vomiting does occur, let him/her rinse mouth and drink fluids again. Get medical attention immediately.

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4.2. **Most important symptoms and effects, both acute and delayed** — Eye irritation and allergic sensitisation may occur.

4.3. **Indication of any immediate medical attention and special treatment needed** — Immediate medical attention is required in case of ingestion.

It may be helpful to show this safety data sheet to physician.

Note to physician ..... A specific antidote for exposure to this material is not known. Gastric lavage and/or administration of activated charcoal can be considered.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. **Extinguishing media** ..... Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.

5.2. **Special hazards arising from the substance or mixture** — The essential breakdown products are volatile, toxic, irritant and inflammable compounds such as nitrogen oxides, hydrogen fluoride, hydrogen chloride, sulphur dioxide, phosphorus pentoxide, carbon monoxide, carbon dioxide and various fluorinated and chlorinated organic compounds.

5.3. **Advice for firefighters** ..... Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. **Personal precautions, protective equipment and emergency procedures** — It is recommended to have a predetermined plan for the handling of spills. Empty, sealable vessels for the collection of spills should be available.

In case of large spill (involving 10 tonnes of the product or more):
1. use personal protection equipment; see section 8
2. call emergency telephone no.; see section 1
3. alert authorities.

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and boots.

Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area. Avoid and reduce mist formation as much as possible.

6.2. **Environmental precautions** ..... Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water

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drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

6.3. **Methods and materials for containment and cleaning up**

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should immediately be absorbed onto an absorptive material such as universal binder, hydrated lime, Fuller's earth or other absorbent clays. Collect the contaminated absorbent in suitable containers. Clean area with much water and detergent. Absorb wash liquid with absorbent and transfer to suitable containers. The used containers should be properly closed and labelled.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

6.4. **Reference to other sections** .....

See subsection 8.2. for personal protection.
See section 13 for disposal.

SECTION 7: HANDLING AND STORAGE

7.1. **Precautions for safe handling** ....

In an industrial environment it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8.

For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.

Keep all unprotected persons and children away from working area.

Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. After work, take off all work clothes and footwear. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after each use.

Do not discharge to the environment. Do not contaminate soil or water

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when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

Persons working with this material for a longer period should be careful to minimise exposure. See section 11. Pregnant women must avoid working with the substance altogether, because the substance may have an effect on the unborn child. Possible effects on offspring which may occur via breast-feeding were also observed.

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

The product is stable under normal conditions of warehouse storage. Protect against extremes of heat or cold. Storage temperature between -10 and 40°C.

Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

7.3. **Specific end use(s)** .....

The product is a registered pesticide which may only be used for the applications it is registered for, in accordance with a label approved by the regulatory authorities.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters**

Personal exposure limits ..... To our knowledge not established for the active ingredients in this product.

		Year	
Dimethyl sulphoxide	ACGIH (USA) TLV	2015	Not established
	OSHA (USA) PEL	2015	Not established
	EU, 2000/39/EC as amended	2017	Not established
	Germany, MAK	2014	50 ppm (160 mg/m^3) Peak limitation: 100 ppm (320 mg/m^3) Skin notation
	HSE (UK) WEL	2011	Not established

However, other personal exposure limits defined by local regulations may exist and must be observed.

Fluxapyroxad

DNEL ..... Not established
The EFSA has established an AOEL of 0.04 mg/kg bw/day

PNEC, aquatic ..... 3.6 µg/l

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Metconazole

DNEL	Not established The EFSA has established an AOEL of 0.01 mg/kg bw/day
PNEC, aquatic	0.3 µg/l

Propanoic acid, 2-hydroxy-, 2-ethyl-hexyl ester, (2S)-

DNEL, inhalation	8 mg/m^3
DNEL, dermal	Low hazard
PNEC, freshwater	8 µg/l
PNEC, marine water	0.8 µg/l

Dimethyl sulphoxide

DNEL, dermal	484 mg/kg bw/day
DNEL, inhalation	200 mg/m^3
PNEC, freshwater	17 mg/l
PNEC, marine water	1.7 mg/l

8.2. **Exposure controls** .....

When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems non-hazardous before opening.

The precautions mentioned below are primarily meant for handling of the undiluted product and for preparing the spray solution, but can be recommended for spraying as well.

In cases of incidental high exposure, more personal protection equipment may be necessary, such as respirator, face mask, chemical resistant coveralls.

Respiratory protection

In the event of an accidental discharge of the material which produces a vapour or mist, workers should put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Protective gloves .....

Wear long chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for epoxiconazole are unknown. Generally, however, the use of protective gloves will give only partial protection against dermal exposure. Small tears in the gloves and cross-contamination can easily occur. It is recommended to limit the work to be done manually and to change the gloves frequently. Be careful not to touch anything with contaminated gloves. Used gloves should be thrown out and not be reused. Wash hands with water and soap immediately after work is finished.

Eye protection .....

Wear safety glasses. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.

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Other skin protection

Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

♣ SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Information on basic physical and chemical properties**

Physical state	Liquid
Colour	Colourless
Odour	Faint, aromatic
Melting point/freezing point	< -20°C
Boiling point or initial boiling point and boiling range	Not determined
Flammability	Not highly flammable; ignitable
Lower and upper explosive limit	**Dimethyl sulphoxide** : 2.6 - 28.5 vol% (≈ 2.6 - 28.5 kPa)
Flash point	Approx. 106°C
Auto-ignition temperature	Approx. 258°C
Decomposition temperature	Not determined
pH	Approx. 3 - 5
Kinematic viscosity	Approx. 26 mm^2/s at 40°C
Solubility	The product is emulsifiable in water. Solubility of **fluxapyroxad** at 20°C in: n-heptane 0.106 g/l acetone > 250 g/l water 3.44 mg/l at pH 7 Solubility of **metconazole** at 20°C in: hexane 1.40 g/l acetone 363 g/l water 30.4 mg/l at pH 7.5
Partition coefficient n-octanol/water (log value)	**Fluxapyroxad** : log K_{ow} = 3.13 at 20°C and pH 7 **Metconazole** : log K_{ow} = 3.85 at 20°C and pH 7.2 - 8 **Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-** : log K_{ow} = 3.3 at 25°C **Dimethyl sulphoxide** : log K_{ow} = -1.35
Vapour pressure	**Fluxapyroxad** : 2.7 x 10^{-9} Pa at 20°C **Metconazole** : 2.1 x 10^{-8} Pa at 20°C
Density and/or relative density	Density: approx. 1.03 g/ml at 20°C
Relative vapour density	Not determined
Particle characteristics	Not applicable (liquid)

9.2. **Other information** ..... No more relevant information is available.

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SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity** ..... To our knowledge, the product has no special reactivities.

10.2. **Chemical stability** ..... The product is stable during normal handling and storage at ambient temperatures.

10.3. **Possibility of hazardous reactions** None known.

10.4. **Conditions to avoid** ..... Heating of the product will produce harmful and irritant vapours.

10.5. **Incompatible materials** ..... Strong acids and alkalis.

10.6. **Hazardous decomposition products** See subsection 5.2.

♣ SECTION 11: TOXICOLOGICAL INFORMATION

11.1. **Information on toxicological effects** * = Based on available data, the classification criteria are not met.

Product

Acute toxicity ..... The product is harmful by inhalation. It is considered as less harmful by skin contact and ingestion. The acute toxicity is measured as:

Route(s) of entry - ingestion LD_{50}, oral, rat: > 2000 mg/kg (method OECD 423) *

- skin LD_{50}, dermal, rat: > 2000 mg/kg (method OECD 402) *

- inhalation LC_{50}, inhalation, rat: 2.74 mg/l/4 h (method OECD 403)

Skin corrosion/irritation ..... Not irritating to skin (method OECD 404). *

Serious eye damage/irritation ..... Irritating to eyes (method OECD 405).

Respiratory or skin sensitisation ... Sensitising (method OECD 429).

Germ cell mutagenicity ..... The product contains no ingredient known to be mutagenic. *

Carcinogenicity ..... The product contains no ingredients known to be carcinogenic. *

Reproductive toxicity ..... In several developmental studies on metconazole (methods OECD 414, 416, EU B31 and B35), effects on offspring were observed at maternal toxic dose levels. In one study with rabbits (EU method B31), a slight increase of developmental hazards was seen at a dose level that did not cause maternal toxicity.

Possible effects on offspring which may occur via breast-feeding were observed for fluxapyroxad.

STOT – single exposure ..... To our knowledge, specific effects after single exposure have not been observed. *

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STOT – repeated exposure ..... The following has been found for the active ingredient **fluxapyroxad**:
Target organ: effects on many organs were observed.
LOAEL was 500 ppm (30 mg/kg bw/day) in a 90-day rat study, based on hypertrophy of liver and thyroid (method OECD 408). *

The following has been found for the active ingredient **metconazole**:
Target organ: no specific target organ. Effects were observed on offspring.
LOAEL: 10 mg/kg bw/day in a developmental study with rabbits (EU method B31). At this exposure level, decreased feed consumption and decreased body weight gain were observed. *

Aspiration hazard ..... The product does not present an aspiration pneumonia hazard. *

Fluxapyroxad

Toxicokinetics, metabolism and distribution: After oral intake, fluxapyroxad is rapidly absorbed and widely distributed in the body. It is extensively metabolised. It is excreted almost completely within a few days. Accumulation is not likely.

Acute toxicity ..... The substance is not considered as harmful by ingestion, inhalation and skin contact. * The acute toxicity is measured as:

Route(s) of entry	- ingestion	LD_{50}, oral, rat: > 2000 mg/kg (method OECD 423)
	- skin	LD_{50}, dermal, rat: > 2000 mg/kg (method OECD 402)
	- inhalation	LC_{50}, inhalation, rat: > 5.1 mg/l/4 h (method OECD 403)

Skin corrosion/irritation ..... Not irritating to skin (method OECD 404). *

Serious eye damage/irritation ..... Not irritating to eyes (method OECD 405). *

Respiratory or skin sensitisation ... Not sensitising (method OECD 406). *

Metconazole

Toxicokinetics, metabolism and distribution: After oral intake, metconazole is rapidly absorbed and widely distributed in the body. It is extensively metabolised. It is excreted within a few days. Accumulation is not likely.

Acute toxicity ..... The substance is harmful by ingestion, but is not considered harmful by inhalation or skin contact. The acute toxicity is measured as:

Route(s) of entry	- ingestion	LD_{50}, oral, rat: 660 - 1459 mg/kg (EU method B1)
	- skin	LD_{50}, dermal, rat: > 2000 mg/kg (EU method B3) *
	- inhalation	LC_{50}, inhalation, rat: > 5 mg/l/4 h (EU method B2) *

Skin corrosion/irritation ..... Not irritating to skin, caused passing redness (EU method B4). *

Serious eye damage/irritation ..... Not irritating to eyes, caused passing redness (EU method B5). *

Respiratory or skin sensitisation ... Not sensitising (EU method B6). *

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Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-

Acute toxicity ..... The substance not considered harmful by single exposure. *

Skin corrosion/irritation ..... Irritating to skin (method similar to OECD 404)

Serious eye damage/irritation ..... Severely irritating to eyes (method similar to OECD 405).

Respiratory or skin sensitisation ... Sensitising (method similar to OECD 429).

Isotridecanol, ethoxylated

Acute toxicity ..... The substance is not considered to be harmful by single exposure. *

Skin corrosion/irritation ..... Not irritating to skin. *

Serious eye damage/irritation ..... Seriously irritating to eyes.

Respiratory or skin sensitisation ... Not expected to be allergenic based on comparison to similar substances. *

11.2. **Information on other hazards** .... No more relevant information is available.

♣ SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity** ..... The product is toxic to aquatic organisms. It is considered non-toxic to birds, insects, earthworms and soil macro- and microorganisms.

The ecotoxicity measured on the product is:

- Fish	Rainbow trout (*Oncorhynchus mykiss*)	96-h LC_{50}: 1.0 mg/l
- Invertebrates	Daphnids (*Daphnia magna*)	48-h EC_{50}: 1.383 mg/l
- Algae	Green algae (*Pseudokirchneriella subcapitata*) ...	72-h E_rC_{50}: > 100 mg/l

The following has been measured on the active ingredient **fluxapyroxad**:

- Fish	Rainbow trout (*Oncorhynchus mykiss*)	33-day NOEC: 0.0359 mg/l
- Invertebrates	Daphnids (*Daphnia magna*)	21-day NOEC: 0.5 mg/l

12.2. **Persistence and degradability** .... **Fluxapyroxad** is not readily biodegradable. Primary degradation half-lives may vary from a few months to a few years in aerobic soil depending on circumstances. It can accumulate in soil if applied in consecutive years.

Metconazole is not readily biodegradable. Primary degradation half-lives vary from a few months to some years in aerobic soil depending on circumstances. It too can accumulate in soil if applied in consecutive years.

The product contains minor amounts of not readily biodegradable

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components, which may not be degradable in waste water treatment plants.

12.3. **Bioaccumulative potential** ..... See section 9 for octanol-water partition coefficients.

Fluxapyroxad is not expected to bioaccumulate. The bioaccumulation factor (BCF) is measured to 37 for whole fish (bluegill sunfish, *Lepomis macrochirus*).

Metconazole is not expected to bioaccumulate either. It is rapidly excreted. The bioaccumulation factor (BCF) is measured to 51 - 80 for whole fish (bluegill sunfish, *Lepomis macrochirus*).

12.4. **Mobility in soil** ..... **Both active ingredients** are of low mobility in soil. Absorption to soil depends on soil type and circumstances.

12.5. **Results of PBT and vPvB assessment** ..... None of the ingredients meets the criteria for being PBT or vPvB.

12.6. **Endocrine disrupting properties** None of the ingredients is known to have endocrine disrupting properties.

12.7. **Other adverse effects** ..... Other relevant hazardous effects in the environment are not known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods** ..... Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.

Disposal of waste and packagings must always be in accordance with all applicable local regulations.

Disposal of product ..... According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not possible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Disposal of packaging ..... It is recommended to consider possible ways of disposal in the following order:
1. Reuse or recycling should first be considered. Reuse is prohibited except by the authorisation holder. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
3. Delivery of the packaging to a licensed service for disposal of

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CVR No. DK 12 76 00 43

hazardous waste.
4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

♣ SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

14.1.	**UN number**	3082
14.2.	**UN proper shipping name**	Environmentally hazardous substance, liquid, n.o.s. (fluxapyroxad)
14.3.	**Transport hazard class(es)**	9
14.4.	**Packing group**	III
14.5.	**Environmental hazards**	Marine pollutant
14.6.	**Special precautions for user**	Avoid any unnecessary contact with the product. Misuse can result in damage to health. Do not discharge to the environment.
14.7.	**Maritime transport in bulk according to IMO instruments** ..	The product is not transported in bulk by ship.

SECTION 15: REGULATORY INFORMATION

15.1.	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	Seveso category (Dir. 2012/18/EU): dangerous for the environment The employer shall assess any risks to the safety or health and any possible effect on the pregnancies or breastfeeding of workers and decide what measures should be taken (Dir. 92/85/EEC). Young people under the age of 18 are not allowed to work with the product. All ingredients are covered by EU chemical legislation.
15.2.	**Chemical safety assessment**	A chemical safety assessment is not required to be included for this product.

♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet	Minor corrections only.
List of abbreviations	ACGIH American Conference of Governmental Industrial Hygienists AOEL Acceptable Operator Exposure Level

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CAS	Chemical Abstracts Service
Dir.	Directive
DNEL	Derived No Effect Level
EC	European Community
EC_{50}	50% Effect Concentration
E_rC_{50}	50% Effect Concentration based on growth
EFSA	European Food Safety Authority
EINECS	European INventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized classification and labelling System of chemicals, seventh revised edition 2017
HSE	Health & Safety Executive, UK
IMO	International Maritime Organisation
ISO	International Organisation for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	50% Lethal Concentration
LD_{50}	50% Lethal Dose
LOAEL	Lowest Observed Adverse Effect Level
MAK	Maximale Arbeitspaltz-Konzentration
NOEC	No Observed Effect Concentration
n.o.s.	Not otherwise specified
OECD	Organisation for Economic Cooperation and Development
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bioaccumulative, Toxic
PEL	Personal Exposure Limit
PNEC	Predicted No Effect Concentration
Reg.	Registration, or Regulation
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
vPvB	very Persistent, very Bioaccumulative
WEL	Workplace Exposure Limit
WHO	World Health Organisation

References ..... Data measured on the product are unpublished company data. Data on ingredients are available from published literature and can be found several places.

Method for classification ..... Inhalation toxicity: test data
Eye irritation: test data
Skin sensitisation: test data
Reproduction toxicity: calculation rules
Effects via lactation: calculation rules
Hazards to the aquatic environment, acute: test data
chronic: calculation rules

Used hazard statements .....

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

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H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
H362	May cause harm to breast-fed children.
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions of use.

Advice on training ..... This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by: FMC Agricultural Solutions A/S / GHB