Fluroxypyr 200 EC (fluroxypyr 200 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010
Issue date: 9/15/2022 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form	:	Mixture
Trade name	:	Fluroxypyr 200 EC (fluroxypyr 200 g/l)
Type of product	:	Herbicide
CAS-No.	:	81406-37-3
Product group	:	End product

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

Use of the substance/mixture	:	A systemic emulsifiable concentrate herbicide for the control of woody plants as listed in forestry, grass pastures and industrial areas.

1.3. Supplier's details

Supplier
Farm-Ag International (Pty) Ltd
Old Mill Industrial Park
61, Marshall Drive
P.O. Box 1523
4300 Mount Edgecombe – Durban KwaZulu Natal
South Africa
T 031 003 3486

1.4. Emergency telephone number

Emergency number	:	24 Hr Emergency Number: In case of Poisoning: Poison Information Helpline : 0861 555 777 In case of Spillage: HAZMAT:0800 147 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Flammable liquids, Category 3	H226
Acute toxicity (dermal), Category 5	H313
Serious eye damage/eye irritation, Category 2A	H319
Carcinogenicity, Category 2	H351
Specific target organ toxicity – Repeated exposure, Category 2	H373
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

Full text of H-statements: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :

Signal word (GHS-ZA)	:	Warning
Hazardous ingredients	:	Toximul DH68, Fluroxypyr TC, Toximul DL66, dichloromethane, Solvent Naphtha
Hazard statements (GHS ZA)	:	H226 - Flammable liquid and vapour. H313 - May be harmful in contact with skin

		H319 - Causes serious eye irritation. H351 - Suspected of causing cancer. H373 - May cause damage to organs through prolonged or repeated exposure. H400 - Very toxic to aquatic life. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (GHS ZA)	:	P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P103 - Read label before use. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 - Keep container tightly closed. P240 - Ground and bond container and receiving equipment. P241 - Use explosion-proof equipment. P242 - Use non-sparking tools. P243 - Take action to prevent static discharges. P260 - Do not breathe vapours, spray. P264 - Wash hands, forearms and face thoroughly after handling. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P312 - Call a POISON CENTER or doctor if you feel unwell. P314 - Get medical advice/attention if you feel unwell. P337+P313 - If eye irritation persists: Get medical advice/attention. P370+P378 - In case of fire: Use D-powder, alcohol resistant foam, carbon dioxide (CO2) to extinguish. P391 - Collect spillage. P403+P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up. P501 - Dispose of container to an approved waste disposal plant.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	:	Flammable liquid and vapour,Suspected of causing cancer, May cause damage to organs through prolonged or repeated exposure, Harmful in contact with skin,Causes skin irritation,Toxic to aquatic life,Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
Solvent Naphtha	CAS-No.: 64742-94-5	≥ 75 – < 80	Flam. Liq. 3, H226 Acute Tox. Not classified (Oral) Acute Tox. 5 (Dermal), H313 Eye Irrit. 2A, H319 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Name	Product identifier	%	Classification according to the United Nations GHS
Fluroxypyr TC	CAS-No.: 81406-37-3	≥ 20 – < 25	Acute Tox. Not classified (Oral) Acute Tox. 5 (Dermal), H313 Acute Tox. 4 (Inhalation:dust,mist), H332 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
dichloromethane	CAS-No.: 75-09-2	≥ 0.1 – < 1	Acute Tox. 5 (Oral), H303 Acute Tox. 5 (Dermal), H313 Eye Irrit. 2A, H319 Muta. 2, H341 Carc. 2, H351 STOT SE 3, H336 Aquatic Acute Not classified
Toximul DH68	-	≥ 0.1 – < 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Toximul DL66	-	≥ 0.1 – < 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 Aquatic Acute 2, H401 Aquatic Chronic 3, H412

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Water spray as a fog can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Do not use direct jet of water. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Personal protection (Emergency response) : Wear respiratory protection,Wear protective gloves,Wear protective clothing,Wear eye protection,Face-shield

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing vapours, spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : For small liquid spills, soak up with lime, damp earth or sand, or other non-combustible absorbent material and place into containers for later disposal. For large liquid spills, contain the liquid for later disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Keep spectators away.
Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid breathing vapours, spray. Do not get in eyes, on skin, or on clothing.
Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Ground/bond container and receiving equipment.
Storage conditions	:	Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Storage area	:	Store out of reach of unauthorised persons, children and animals.
Incompatible products	:	Oxidizing agent. Strong acids. Strong bases.
Heat and ignition sources	:	KEEP SUBSTANCE AWAY FROM: Sources of sparks, flame or heat.
Information on mixed storage	:	KEEP SUBSTANCE AWAY FROM: Food supplies. Water supplies.
Maximum storage period	:	2 years

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

dichloromethane (75-09-2)	
South Africa - Occupational Exposure Limits (Control Limits)	
Local name	Dichloromethane
OEL TWA	350 mg/m³
OEL TWA [ppm]	100 ppm
Regulatory reference	Government Notice. R: 1179
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Methylene chloride (Dichloromethane)
OEL TWA	175 mg/m³
OEL TWA [ppm]	50 ppm
OEL STEL	780 mg/m³
OEL STEL [ppm]	250 ppm
Regulatory reference	Government Notice No. R 904

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection	:	Protective gloves
Eye protection	:	Safety glasses
Skin and body protection	:	Wear suitable protective clothing
Respiratory protection	:	In case of inadequate ventilation wear respiratory protection.

Personal protective equipment symbol(s):

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	No data available

Colour	:	Yellow.
Odour	:	Solvent-like odour.
Odour threshold	:	No data available
pH	:	5.5
pH solution	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	47 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not applicable
Vapour pressure	:	No data available
Vapour pressure at 50 °C	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Relative density of saturated gas/air mixture	:	No data available
Density	:	No data available
Relative gas density	:	No data available
Solubility	:	Miscible.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : May be harmful in contact with skin.
Acute toxicity (inhalation) : Not classified

Fluroxypyr 200 EC (fluroxypyr 200 g/l) (81406-37-3)	
ATE ZA (Dermal)	2537.813 mg/kg bodyweight
Unknown acute toxicity (GHS ZA)Unknown acute toxicity (GHS ZA)	98.51% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 98.51% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Fluroxypyr TC (81406-37-3)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 Inhalation - Rat	> 1 mg/l

dichloromethane (75-09-2)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)

Solvent Naphtha (64742-94-5)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 798.1175 (Acute Oral Toxicity), Remarks on results: other:
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EPA OTS 798.1100 (Acute Dermal Toxicity), Remarks on results: other:

Skin corrosion/irritation : Not classified
pH: 5.5
Serious eye damage/irritation : Causes serious eye irritation.
pH: 5.5
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.
Reproductive toxicity : Not classified
STOT-single exposure : Not classified

dichloromethane (75-09-2)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Solvent Naphtha (64742-94-5)	
LOAEL (oral, rat, 90 days)	1250 mg/kg bodyweight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
LOAEL (dermal, rat/rabbit, 90 days)	200 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
LOAEC (inhalation, rat, vapour, 90 days)	4.71 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)
NOAEL (oral, rat, 90 days)	625 mg/kg bodyweight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	2000 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Solvent Naphtha (64742-94-5)	
NOAEC (inhalation, rat, vapour, 90 days)	2355 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)
	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Toxic to aquatic life with long lasting effects.

Fluroxypyr TC (81406-37-3)	
LC50 - Fish [1]	> 0.225 mg/l Rainbow Trout
LC50 - Other aquatic organisms [1]	> 0.183 mg/l Daphnia
Partition coefficient n-octanol/water (Log Kow)	4.53 pH 5
Additional ecotoxicological information	Birds: Acute oral LD50 for mallard ducks and bobwhite quail >2000 mg/kg. Dietary LC50 for bobwhite quail >5000 mg/kg diet. Bees (LD50, µg/bee) >100 (oral and contact) (48h) Worms: LC50 (14d) for earthworms >1000 mg/kg soil.

dichloromethane (75-09-2)	
LC50 - Fish [1]	193 mg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
BCF - Fish [1]	2 – 40 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Semi-static system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.67 (log Koc, Calculated value)

Solvent Naphtha (64742-94-5)	
LC50 - Fish [1]	8.41 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	4.7 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	12.4 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	18.9 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

Fluroxypyr 200 EC (fluroxypyr 200 g/l) (81406-37-3)	
Persistence and degradability	No additional information available

dichloromethane (75-09-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.

12.3. Bioaccumulative potential

Fluroxypyr 200 EC (fluroxypyr 200 g/l) (81406-37-3)	
Bioaccumulative potential	No additional information available

Fluroxypyr TC (81406-37-3)	
Partition coefficient n-octanol/water (Log Kow)	4.53 pH 5

dichloromethane (75-09-2)	
BCF - Fish [1]	2 – 40 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Semi-static system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.67 (log Koc, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Fluroxypyr 200 EC (fluroxypyr 200 g/l) (81406-37-3)	
Mobility in soil	No additional information available

Fluroxypyr TC (81406-37-3)	
Partition coefficient n-octanol/water (Log Kow)	4.53 pH 5

dichloromethane (75-09-2)	
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log Pow)	1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.67 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1993	1993	1993

SANS	IMDG	IATA
14.2. Proper Shipping Name		
FLAMMABLE LIQUID, N.O.S. ((fluroxypyr 200 g/l))	FLAMMABLE LIQUID, N.O.S. ((fluroxypyr 200 g/l))	Flammable liquid, n.o.s. ((fluroxypyr 200 g/l))
14.3. Transport hazard class(es)		
3	3	3
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6. Special precautions for user

SANS

Special provisions (SANS) : 223, 274
Limited quantities (SANS) : 5 L
Limited quantities (SANS) : 5 L
Packagings, large packagings and IBCs Packing instructions (SANS) : P001, IBC03, LP01
Portable tank and bulk containers instructions (SANS) : T4
Portable tank and bulk container special provisions (SANS) : TP1, TP29

IMDG

Special provisions (IMDG) : 223, 274, 955
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : LP01, P001
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP29
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER
Stowage category (IMDG) : A

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y344
PCA limited quantity max net quantity (IATA) : 10L
PCA packing instructions (IATA) : 355
PCA max net quantity (IATA) : 60L
CAO packing instructions (IATA) : 366
CAO max net quantity (IATA) : 220L
Special provisions (IATA) : A3
ERG code (IATA) : 3L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

No additional information available

SECTION 16: Other information

Issue date : 15/09/2022

Full text of H-statements	
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H303	May be harmful if swallowed
H304	May be fatal if swallowed and enters airways.
H313	May be harmful in contact with skin
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H401	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.

Safety Data Sheet (SDS), South Africa

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.