Carabiner

SAFETY DATA SHEET SOLNOX

0 11 1	
Section 1.	Identification of the material and the supplier
Product:	SOLNOX
Product Use:	Herbicide
Restriction of Use:	Refer to Section 15
Supplier:	AGRITECH BIOSCIENCE (PTY) LTD T/A CARABINER
	PO Box 1224
	Isando, 1600
	South Africa
	www.carabiner.co.za
	TEL: 071 546 5077
Emorgonov No:	
Emergency No.	
	CRIEFON ROLOON OFNITE 000 440 0040
	GRIFFON POISON CENTRE 082 446 8946
Date of SDS Preparatio	n: 20 June 2024
Section 2.	Hazards Identification

Classification of the substance or mixture

Globally Harmonised System, EU (GHS) and according to regulation EC No 1272/2008 [CLP]

Flammable liquid Category 3: H226 Spesific Target Organ Toxicity (Single Exposure) Category 3: H335 Short-term (acute) aquatic hazard Category 1: H400 Long-term (chronic) aquatic hazard Category 1: H410

For the full text of the H-Statements mentioned in this Section, see Section 16.



Signal Word: Warning

Hazard statement(s)

H226 - Flammable liquid and vapour.

H335 – May cause respiratory irritation.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

General:

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read carefully and follow all instructions.

Prevention:

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 electrical/ventilating/lighting/equipment.

P242 - Use only non-sparking tools.

P243 - Take action to prevent static discharges.

P261 - Avoid breathing dust/fumes/gas/mist/vapours/spray.

P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response:

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water or shower.

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P319 - Get medical help if you feel unwell.

P370 + P378 - In case of fire - Use Carbon dioxide, dry chemical, foam, water fog to extinguish.

P391 - Collect spillage.

Storage:

P403 + P233 - Store in a well-ventilated place. Keep container tighly closed. P405 - Store locked up.

Disposal:

P501 - Dispose of contents/container in accordance with national regulations.

Supplemental Hazard Statements

None

Supplemental Hazard Statements: none

Other hazards

No other hazards known

Section 3.

Composition / Information on Hazardous Ingredients

Mixture Emulsifiable Concentrate Fluroxypyr-meptyl 200g/L EC

Globally Harmonised System, EU (GHS) and according to regulation EC No 1272/2008 [CLP]

Chemical name	Concentration of hazardous ingredient	Classification
		Short-term (Acute) Aquatic hazard Cat. 1:
Fluroxypyr-meptyl	20%	Long-term (Chronic) Aquatic hazard Cat. 1:
		H410
		M Factor: 1
1,3,5-Trimethylbenzene	<u>≥</u> 1 - <u><</u> 70%	Flam. Liq. Cat. 3: H226
		STOT-SE Cat. 3: H335
		Long-term (Chronic) Aquatic hazard Cat. 2:
		H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4. First Aid Measures

Never give anything by mouth to an unconscious person. Consult a physician. First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely. Remove patient from exposed area. Never give fluids or induce vomiting if the patient is unconscious or is having convulsions.

Routes of Exposure:

- If in Eyes Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. **Seek** medical assistance immediately.
- If on Skin Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. Do not rub skin. If a large area is affected seek medical assistance.
- If Swallowed Rinse mouth thoroughly. Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. Prevent aspiration if vomiting occurs. Administer Give patient a glass of water if conscious. For advice, contact the National Poisons Centre. Seek medical assistance immediately.
- If Inhaled Remove patient to fresh air. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. **Seek medical assistance immediately.**

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Treatment:

No specific antidote. Treat symptomatically. The product contains a solvent that may cause chemical pneumonitis if aspirated into lungs. Onset of pulmonary injury may be delayed. Perform gastric lavage if ingested and administer activated charcoal

Section 5. Fire Fighting	g Measures
Hazards from products	There is a moderate risk of an explosion from this product if it is involved in a fire, including vapour flashback. Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces. Hazardous compounds generated include chloride compounds, fluoride compounds and nitrogen oxides.
Suitable Extinguishing media	Carbon dioxide, dry chemical, foam, water fog. Do not use a water jet due to contamination/spreading fog.
Recommended protective clothing & Precautions for firefighters	When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and self-contained breathing apparatus. All skin areas should be covered. Ensure that no spillage enters drains or water courses.
	Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Water can be used to cool unaffected containers but must be contained for later disposal.
	UNUSUAL FIRE OR EXPLOSION HAZARDS: There is a moderate risk of an explosion from this product if it is involved in a fire, including vapour flashback. Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces. Hazardous compounds generated include chloride compounds, fluoride compounds and nitrogen oxides.

Section 6.

Accidental Release Measures

Personal precautions:

Avoid contact with eyes and skin. When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length

PVC gloves, a face shield or goggles. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

For personal protection see Section 8.

Environmental precautions:

Do not contaminate waterways, drains and groundwater. If contamination of waterways, drains, rivers or lakes is unavoidable, warn the local authorities (Police and Department of Water/Environmental affairs) immediately.

Spill and Disposal procedures:

Cleaning procedure:

Wear protective equipment (see PERSONAL PROTECTION). Clear area of all unprotected personnel. Prevent entry of chemical or used/damaged containers into drains, streams or waterways.

Small Spill: Apply absorbent material such as earth, sand or clay granules or cat litter to the spill. Sweep up material for disposal when absorption is complete and contain in a refuse vessel for disposal (See DISPOSAL). If necessary, wash the spill area with an alkali detergent and water and absorb as above the wash liquid for disposal.

Large Spill: Place leaking containers into salvage drums. Apply absorbent material such as earth, sand or cat litter to the spill area. Form a barricade around spill and in front of drains or waterways in spill vicinity, using earth or other available material. Sweep up material and contain in a refuse vessel for disposal (see DISPOSAL).

Disposal:

Used absorbent material and washings should be stored in labelled, sealable containers until these can be disposed of according to local regulations. Open burning or dumping of this material is prohibited.

Section 7.	Handling and Storage

Precautions for Handling:

Avoid contact with eyes and skin. Ventilation required. Keep away from: sparks, open flame, and direct sunlight.

Precautions for Storage:

Storage conditions

Store in original container only in a well-ventilated, cool, dry, secure, shaded area away from children, foods, and animal feeds. Protect from heat, open flames, moisture, and direct sunlight. Do not store near food, feedstuffs, fertilisers, or seed. Keep out of reach of children.

Section 8	Exposure Controls / Personal Protection	
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Occupational exposure limits:

Component	Value type (Form of exposure)	Control parameters / permissible concentration	Basis
1,3,5-Trimethylbenzene	DNEL: Inhalation	100 mg/m3	ECHA
1,3,5-Trimethylbenzene	8 h TWA	50 mg/m3	South Africa OEL
1,3,5-Trimethylbenzene	DNEL: Dermal	16 171 mg/kg bw/day	ECHA

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Engineering Controls / Industrial Hygiene

Comply with occupational safety, environmental, fire and other applicable regulations.

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Eyes	The use of safety goggles or full-face shield is recommended.
Hands	Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance.
Skin	Consult supplier to confirm that the equipment is suitable. Employee must wear appropriate protective (impervious) clothing.
Respiratory	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive pressure, self-contained breathing apparatus. If vapors are strong enough to be irritating to the nose, or eyes, the OEL is probably being exceeded. Special ventilation or respiratory protection may be required. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.
General	Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

Personal Protection Equipment

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Brown
Odour	Characteristic
Odour Threshold	No data available
рН	5 - 7
Boiling/Melting Point	No data available
Freezing Point	No data available
Flash Point	No data. Expected to be 55 – 60 °C
Flammability	Flammable liquid Cat. 3
Upper and Lower Explosive	No data available
Limits	
Vapour Pressure	No data available
Vapour Density	No data available

Relative Density	0.990 – 1.000
Solubility	Emulsifies in water (active ingredient has solubility of about 1
	mg/L at 25°C).
Partition Coefficient n-	4.5 (Fluroxypyr-meptyl)
octanol/water (log value):	
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Kinematic Viscosity	No data available
Particle Characteristics	No data available
Surface tension	No data available

Section 10. Stability and Reactivity

Stability of Substance	Stable under normal use and standard conditions. Stable for	
	24 months.	
Chemical stability	When stored appropriately this product should show no	
	significant degradation for 2 years from the date of	
	manufacture. Thermally and chemically stable.	
Possibility of hazardous	None known.	
reactions		
Conditions to Avoid	Avoid extreme heat, cold, strong acids, strong bases and	
	strong oxidizing agents. Keep out of reach of children.	
Incompatible Materials	Oxidizing agents, acids, alkali.	
Hazardous Decomposition	Fire decomposition products from this product may form toxic	
Products	and corrosive mixtures in confined spaces, including carbon	
	dioxide, and if combustion is incomplete, carbon monoxide and	
	smoke. Hydrogen fluoride gas and fluorides.	

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Acute Effects:

Acute oral toxicity [LD ₅₀]:	Rat: >2000 mg/kg
	The criteria for classification in the GHS have not been met
	GHS: Not classified
Acute dermal toxicity [LD ₅₀]:	Rat: >2000 mg/kg
	The criteria for classification in the GHS have not been met
	GHS: Not classified
Acute inhalation toxicity	Rat: >5.0 mg/L
[LC ₅₀]:	The criteria for classification in the GHS have not been met
	GHS: Not classified
Serious eye	The criteria for classification in the GHS have not been met
damage/irritation	GHS: Not classified
Skin irritation/corrosion	The criteria for classification in the GHS have not been met
	GHS: Not classified

Chronic Effects:

Carcinogenicity	No component of this product present at levels greater than or equal
	to 0.1% is identified as a probable, possible, or confirmed human
	carcinogen by IARC.

	No component of this product present at levels greater than or equal
	to 0.1% is identified as a carcinogen or potential carcinogen by
	ACGIH.
	No component of this product present at levels greater than or equal
	to 0.1% is identified as a known or anticipated carcinogen by NTP.
	No component of this product present at levels greater than or equal
	to 0.1% is on OSHA's list of regulated carcinogens
	The criteria for GHS classification have not been met
	GHS: Not classified as carcinogenic.
Reproductive Toxicity	Formulated product: Based on available data of components.
	The criteria for classification in the GHS have not been met
	GHS: Not classified.
Respiratory/skin	Respiratory sensitisation:
sensitisation	The criteria for classification in the GHS have not been met
	GHS: Not classified
	Skin sensitisation:
	The criteria for classification in the GHS have not been met
	GHS: Not classified
Germ Cell Mutagenicity	The criteria for classification in the GHS have not been met
	GHS: Not classified
Aspiration	The criteria for classification in the GHS have not been met
	GHS: Not classified
Respiratory irritation	The criteria for classification in the GHS have not been met
	GHS: Not classified
STOT/SE	Formulated product: Based on available data of components.
	GHS: STOT-SE Cat. 3 respiratory system
STOT/RE	Formulated product: Based on available data of components.
	The criteria for GHS have not been met.

Section 12. Ecotoxicological Information

Ecological effects information	Acute fish toxicity: Aquatic acute toxicity:
	Formulated product: Based on available data of components. Determined via summation GHS: Short-term (Acute) Aquatic hazard Cat. 1.
	Aquatic chronic toxicity:
	Formulated product: Based on available data of components. Determined via summation

	GHS: Long-term (Chronic) Aquatic hazard Cat. 1.
	Daphnia magna:
	Fluroxypyr-meptyl
	<i>Daphnia</i> LC₅₀ (48 h) >0.183 mg/l.
	No data available for the formulated product
	Algae:
	Fluroxypyr-meptyl
	Algae EC ₅₀ (120 h) for Skeletonema costatum 0.208 mg/l.
	No data available for the formulated product
	Birds:
	Fluroxypyr-meptyl:
	Acute oral LD ₅₀ for mallard ducks and bobwhite quail >2000
	mg/kg. Dietary LC ₅₀ for bobwhite quail >5000 mg/kg diet.
	No data available for the formulated product
	Toxicity for worms:
	Fluroxypyr-meptyl : LC_{50} (14 d) for earthworms >1000 mg/kg
	soil.
	No data available for the formulated product
	Bees:
	Fluroxypyr-meptyl: >100 (contact). Not toxic to bees
	No data available for the formulated product
Persistence and degradability	Information based on active:
	Plants and animals: Duration of residual activity in soil is c. 5
	months. The Animals Hydrolysed to the parent acid, fluroxypyr,
	I which is extensively metabolised and rabidly excreted mainly
1	unchanged in the urine
	unchanged, in the urine.
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In soil/water slurries, DT ₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT ₅₀
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with $DT_{50} < 7 d$. In soil/water slurries, $DT_{50} 2-5 h (pH 6-7, 22-24 °C)$. Total DT_{50} for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d;
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with $DT_{50} < 7$ d. In soil/water slurries, $DT_{50} = 2-5$ h (pH 6–7, 22–24 °C). Total DT_{50} for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with $DT_{50} < 7$ d. In soil/water slurries, $DT_{50} = 2-5$ h (pH 6–7, 22–24 °C). Total DT_{50} for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d.
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with $DT_{50} < 7$ d. In soil/water slurries, $DT_{50} = 2-5$ h (pH 6–7, 22–24 °C). Total DT_{50} for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable.
	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with $DT_{50} < 7$ d. In soil/water slurries, $DT_{50} = 2-5$ h (pH 6–7, 22–24 °C). Total DT_{50} for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent
Bioaccumulative potential	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with $DT_{50} < 7 d$. In soil/water slurries, $DT_{50} 2-5 h (pH 6-7, 22-24 °C)$. Total DT_{50} for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (PCE < 100 or loce Date: 52)
Bioaccumulative potential	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with $DT_{50} < 7 d$. In soil/water slurries, $DT_{50} 2-5 h$ (pH 6–7, 22–24 °C). Total DT_{50} for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water(log Pow): 5.04
Bioaccumulative potential	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In soil/water slurries, DT ₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT ₅₀ for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water(log Pow): 5,04 Bioconcentration factor (BCE): 26 Oncorbynchus mykiss
Bioaccumulative potential	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In soil/water slurries, DT ₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT ₅₀ for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water(log Pow): 5,04 Bioconcentration factor (BCF): 26 Oncorhynchus mykiss (rainbow trout)Measured.
Bioaccumulative potential Mobility in Soil	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In soil/water slurries, DT ₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT ₅₀ for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water(log Pow): 5,04 Bioconcentration factor (BCF): 26 Oncorhynchus mykiss (rainbow trout)Measured. Soil Fluroxypyr methyl heptyl ester is almost completely
Bioaccumulative potential Mobility in Soil	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In soil/water slurries, DT ₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT ₅₀ for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water(log Pow): 5,04 Bioconcentration factor (BCF): 26 <i>Oncorhynchus mykiss</i> (rainbow trout)Measured. Soil Fluroxypyr methyl heptyl ester is almost completely degraded to fluroxypyr acid within one week in soil and water.
Bioaccumulative potential Mobility in Soil	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In soil/water slurries, DT ₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT ₅₀ for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water(log Pow): 5,04 Bioconcentration factor (BCF): 26 Oncorhynchus mykiss (rainbow trout)Measured. Soil Fluroxypyr methyl heptyl ester is almost completely degraded to fluroxypyr acid within one week in soil and water. Fluroxypyr acid is primarily degraded by microbial action. It has
Bioaccumulative potential Mobility in Soil	unchanged, in the urine. Plants: Hydrolysed to the parent acid, fluroxypyr. Soil/Environment In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT ₅₀ <7 d. In soil/water slurries, DT ₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT ₅₀ for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d. Biodegradation: Not readily biodegradable. Bioaccumulative potential: Not persistent Fluroxypyr-meptyl: Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water(log Pow): 5,04 Bioconcentration factor (BCF): 26 <i>Oncorhynchus mykiss</i> (rainbow trout)Measured. Soil Fluroxypyr methyl heptyl ester is almost completely degraded to fluroxypyr acid within one week in soil and water. Fluroxypyr acid is primarily degraded by microbial action. It has a half-life of about 3 to 6 days in soil under aerobic conditions

	fluroxypyr acid has a half-life of 185 to 265 days depending on the pH. Fluroxypyr is not expected to move into ground water. Residues typically remain in the top 10 centimetres of a soil profile. If used according to the label directions, the product will not be harmful to the environment.
Other adverse effects	This substance / mixture contains no ingredients that are on the Montreal Protocol list of substances that deplete the ozone layer. This substance/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.
Precautions:	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:

In accordance with local and national regulations.

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

This product and its container must be disposed of by a waste treatment facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations. Do not dispose into, or allow contact with, municipal sewerage systems or open water bodies. Do not bury.

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling container, replace cap and return clean containers to recycler or designated collection point.

In accordance with local and national regulations. This product and its container must be disposed of by a waste treatment facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations. Do not dispose into, or allow contact with, municipal sewerage systems or open water bodies. Do not bury.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible. If containers cannot be recycled, they should be disposed of together with the waste chemical.

Do not reuse empty containers. Empty containers retain product residue. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Consult provincial environment department for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers may be used for transport. If recycling, close container and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and take to a waste treatment

facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations for disposal.

Special precautions during disposal:

Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and take to a waste treatment facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations for disposal.

If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush, and store appropriately until it can be taken to a waste treatment facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations for disposal.

Empty containers and product should not be burnt.

Section 14	Transport Information
Rail/road (RID/ADR):	
Proper shipping name	Flammable liquid, N.O.S. Flammable liquid, N.O.S.
	(Contains Fluroxypyr-meptyl)
UN number	1993
Class	9.0
Packing group	III
Environm. Haz. Mark	Yes
<u>Sea (IMDG code):</u>	
Proper shipping name	Flammable liquid, N.O.S. Flammable liquid, N.O.S.
	(Contains Fluroxypyr-meptyl)
UN number	1993
Class	9
Packing group	III
Marine pollutant	Yes
Transport in bulk	Not available.
according to Annex I o	r II
of MARPOL 73/78 and	the
IBC or IGC code	
<u>Air (ICAO/IATA):</u>	
Proper shipping name	Flammable liquid, N.O.S. Flammable liquid, N.O.S.
	(Contains Fluroxypyr-meptyl)
UN number	1993
Class	9
Packing group	III
Environm. Haz. Mark	Yes

Section 15 Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture This safety data sheet complies with the requirements of Regulation (EC) No.1907/2006.

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Code for the Transport of Dangerous Goods (ADG). This applies when transported by road or rail in packaging's that do not incorporate a receptacle exceeding 500 kg(L) or IBCs per ADG Special Provision AU01.

Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code and IATA special provision A197.

This information is not intended to convey all specific regulatory or operational requirements/ information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

Section 16	Other Information

Full text of H-Statements referred to under sections 2 and 3.

H226 - Flammable liquid and vapour.

- H302 Harmful if swallowed.
- H335 May cause respiratory irritation.
- 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.

For proper and safe use of this product, please refer to the approval conditions laid down on the product label. The data contained in this safety data sheet is based on our current knowledge and describes the product only with regard to safety requirements. The data does not describe the products properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any existing laws and legislation are observed.

Glossary

ACGIH ADR	American Conference of Governmental Industrial Hygienists. European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS-Nr.	Chemical Abstracts Service number
CLP	Classification, Labelling and Packaging
DNEL	Derived No Effect Level
ECHA	European Chemicals Agency
EC-No.	European community number
ECx	Effective concentration to x %
EEC	European Union regulation

EU	European Union
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous
	Chemicals in Bulk (IBC Code)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
MARPOL	International Convention for the prevention of marine pollution from ships
NTP	U.S National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	American Occupational Safety and Health Administration.
PBT	Persistence, Bioaccumulation and Toxic
vPvB	Very persistent and very bioaccumulative
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STOT SE	Specific target organ toxicity single exposure.
STOT RE	Specific target organ toxicity repeated exposure.
TWA	Time weighted average
UN	United Nations

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

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