

SAFETY DATA SHEET SOLNOX

Reg. No. / Nr L11833 Act No. 36 of 1947 / Wet Nr 36 van 1947

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

Emergency No: POISON INFORMATION HELPLINE 0861 555 777
POISON CENTRE (UNITAS HOSPITAL) 012 664 1100
TYGERBERG 021 931 6129
RED CROSS 021 689 5227
RAPID SPILL RESPONSE 0800 775 3305
GRIFFON POISON CENTRE 082 446 8946

Date of SDS Preparation: 05 February 2026

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
Specific 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.

Pictograms



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.

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 tightly 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
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Mixture
Emulsifiable Concentrate
Fluroxypyr-meptyl 200 g/L EC

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

Ingredients	Concentration of hazardous ingredient in composition	CAS Number	Classification
Fluroxypyr-meptyl	20%	81406-37-3	Aquatic Acute Cat. 1; H400 Aquatic Chronic Cat. 1; H410
1,3,5-Trimethylbenzene	≥1 - ≤70%	108-67-8	Flam. Liq. Cat. 3; H226 STOT SE Cat. 3; H335 Aquatic Chronic 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 attention.
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. Seek medical attention.
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. Give the patient a glass of water if conscious. For advice, contact the National Poisons Centre. Seek medical attention.
If Inhaled	Remove patient to fresh air. Loosen clothing around neck. Lie down and keep patient calm, warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical attention.

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 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**Occupational exposure limits:**

Component	Value type (Form of exposure)	Control parameters / permissible concentration	Basis
1,3,5-Trimethylbenzene	DNEL: Inhalation	100 mg/m ³	ECHA
1,3,5-Trimethylbenzene	8 h TWA	50 mg/m ³	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.

Personal Protection Equipment

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.

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Brown
Odour	Characteristic
Odour Threshold	No data available
pH	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 Limits	No data available
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-octanol/water (log value):	4.5 (Fluroxypyr-meptyl)
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 reactions	None known.
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 Products	Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces, including carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen fluoride gas and fluorides.

Section 11 Toxicological Information**Acute Effects**

Oral	GHS: Not classified
Dermal	GHS: Not classified
Inhalation	GHS: Not classified
Eye	GHS: Not classified
Skin	GHS: Not classified

Chronic Effects

Carcinogenicity	GHS: Not classified
Reproductive Toxicity	GHS: Not classified
Respiratory/skin sensitisation	Respiratory sensitisation: GHS: Not classified Skin sensitisation: GHS: Not classified
Germ Cell Mutagenicity	GHS: Not classified
Aspiration	GHS: Not classified
Respiratory irritation	GHS: Not classified
STOT/SE	GHS: Category 3 Respiratory system
STOT/RE	GHS: Not classified

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. <i>Daphnia magna</i>: Fluroxypyr-meptyl <i>Daphnia</i> LC₅₀ (48 h) >0.183 mg/l. No data available for the formulated product Algae: Fluroxypyr-meptyl Algae EC₅₀ (120 h) for <i>Skeletonema costatum</i> 0.208 mg/l. No data available for the formulated product Birds: Fluroxypyr-meptyl: Acute oral LD₅₀ for mallard ducks and bobwhite quail >2000 mg/kg. Dietary LC₅₀ for bobwhite quail >5000 mg/kg diet. No data available for the formulated product Toxicity for worms: Fluroxypyr-meptyl: LC₅₀ (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, which is extensively metabolised and rapidly excreted, mainly 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 DT₅₀ <7 d. In soil/water slurries, DT₅₀ 2–5 h (pH 6–7, 22–24 °C). Total DT₅₀ 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	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.
Mobility in Soil	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 depending on soil type and climatic conditions. In sterile water, 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. (Fluroxypyr-meptyl)
UN number	1993
Class	9
Packing group	III
Environm. Haz. Mark	Yes

Sea (IMDG code):

Proper shipping name	FLAMMABLE LIQUID N.O.S. (Fluroxypyr-meptyl)
UN number	1993
Class	9
Packing group	III
Marine pollutant	Yes
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC code	Not available.

Air (ICAO/IATA):

Proper shipping name	FLAMMABLE LIQUID N.O.S. (Fluroxypyr-meptyl)
UN number	1993
Class	9
Packing group	III
Environm. Haz. Mark	Yes

Section 15	Regulatory Information
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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.

Chemical Safety Assessment

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

Section 16	Other Information
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Full text of H-Statements referred to under sections 2 and 3.

H226 - Flammable liquid and vapor.

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.

The information herein is given in good faith, but no warranty, express or implied is made.

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