


## Safety Data Sheet

### SOLSTAR - Reg. No: L 7968 (Act No 36 of 1947) N-AR 1691

Date of issue: June 2010  
Date Revised: January 2020

1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	SOLSTAR
Other means of identification	Fluroxypyr 200 g/L EC
Recommended use:	Herbicide
Restrictions on use:	No information available
UN No:	1993
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	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
Chemical Name:	4-amino-3,5-dichloro-6-fluoro-2-pyridyloxyacetic acid (IUPAC)
2) Classification of the substance / mixture:	
Classification of the product is based on the co-formulants listed in section 3.	UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008  Aquatic acute 1: (H400) Aquatic chronic 1: (H410)
Label elements	Hazard pictogram (S):    Signal Word: <b>WARNING</b>  <b>Hazard statement(s)</b> H302 + H312 :Harmful if swallowed or in contact with skin. H317 : May cause an allergic skin reaction. H331 : Toxic if inhaled. H336 : may cause drowsiness or dizziness. H400 : Very toxic to aquatic life. H410 : Very toxic to aquatic life with long lasting effects.

	<p><b>Precautionary Statement(s)</b> P102: Keep out of reach of children. P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking. P264: Wash contacted areas thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well ventilated area. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves, protective clothing and eye or face protection. P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302+P352: IF ON SKIN: Wash with plenty of soap and water. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P405: Store locked up. P410: Protect from sunlight. P402+P404: Store in a dry place. Store in a closed container. P403+P235: Store in a well-ventilated place. Keep cool. P501: Dispose of contents and containers as specified on the registered label.</p> <p><b>Other hazard(s)</b> None known</p> <p>Full text of symbols and R-phrases and symbols: see section 15.</p>				
Health effects: eyes:	May cause severe irritation.				
Health effects: skin:	May cause irritation and may be harmful.				
Health effects: ingestion	Harmful if swallowed.				
Health effects: inhalation	Harmful if inhaled.				
3) COMPOSITION / INFORMATION ON INGREDIENTS:					
Mixture:					
Chemical name	% composition	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)	Classification according to 67/548/EEC
Fluroxypyr-meptyl	20%	81406-37-3	279-752-9	Aquatic acute 1: H400 (Very toxic to aquatic life)  Aquatic chronic 1: H410 (Very toxic to aquatic life with long-lasting effects)	R50-53 S 60 S 61
Surfactant	≤2%	-	-	H318 (Causes serious eye damage) H315 (Causes skin irritation) H226 (Flammable liquid and vapour) H315 (Causes skin irritation) H318 (Causes serious eye damage) H335 (May cause respiratory irritation) H336 (May cause drowsiness or dizziness)	Xi; R38 Xi; R41
Solvent	50%	-	-	Not available	Xn N R51/53

					R65 R66 R67
Full text of Symbols and R and S -phrases: see section 15.					
4) First Aid Measures:					
Inhalation:		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.			
Skin contact:		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.			
Eye contact:		Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance immediately.			
Ingestion		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.			
Most important symptoms and effects, acute and delayed:		None known.			
Indication of immediate medical attention and special treatment needed: Advice to physician		No specific antidote. Treat symptomatically. The product contains 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.			
5) Fire-Fighting Measures:					
Extinguishing Media:		Carbon dioxide, dry chemical, foam, water fog.			
Unsuitable extinguishing media:		No information available.			
Fire Fighting:		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.			
Protective clothing:		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.			
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.
<b>Occupational spill:</b>	<b>Cleaning procedure:</b> 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. <b>Small Spill:</b> 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. <b>Large Spill:</b> 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).
<b>7) Handling &amp; Storage:</b>	
<b>Handling:</b>	Avoid contact with eyes and skin. Ventilation required. Keep away from: sparks, open flame and direct sunlight.
<b>Storage:</b>	Store in the closed original container in a dry, cool, well-ventilated area, out of direct sunlight. Do not store near food, feedstuffs, fertilisers or seed. Keep out of reach of children.
<b>8) Exposure Control / Personal Protection:</b>	
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.	
<b><u>PERSONAL PROTECTIVE EQUIPMENT:</u></b>	
<b>Clothing:</b>	Employee must wear appropriate protective (impervious) clothing.
<b>Gloves:</b>	Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance
<b>Eye protection:</b>	The use of safety goggles or full-face shield is recommended.
<b>Emergency eye wash:</b>	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.
<b>9) Physical &amp; Chemical Properties:</b>	
<b>Form:</b>	Liquid
<b>Colour:</b>	Brown
<b>Odour:</b>	Characteristic odour
<b>Odour threshold</b>	Not data available
<b>Melting point / Freezing point</b>	Not data available
<b>Initial boiling point and boiling range</b>	Not data available
<b>Flash point:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas)</b>	Not data available
<b>Upper/ lower flammability or explosive limits:</b>	Not data available
<b>Vapour pressure:</b>	Not data available
<b>Vapour density:</b>	Not data available
<b>Relative density</b>	0.990 – 1.000
<b>Partition coefficient: n-octanol/water</b>	4.5 (Fluroxypyr-meptyl)
<b>Auto-ignition temperature:</b>	Not data available
<b>Viscosity:</b>	Not data available
<b>Solubility:</b>	emulsifies in water (active ingredient has solubility of about 1 mg/L at

	25°C).
<b>pH:</b>	5-7
<b>10) Stability &amp; Reactivity:</b>	
<b>Reactivity</b>	Stable under normal conditions
<b>Stability:</b>	<p>This product is unlikely to spontaneously decompose. Store in original containers and keep tightly closed. Store between -5 °C and 25 °C.</p> <p><b>Conditions to avoid:</b> Avoid extreme heat, cold, strong acids, strong bases and strong oxidizing agents. Keep out of reach of children.</p>
<b>Hazardous decomposition product(s):</b>	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.
<b>Conditions to avoid:</b>	Heat / Sparks / Open flames / Hot surfaces.
<b>Incompatible materials:</b>	Oxidizing agents, acids, alkali
<b>11) Toxicological Information: Based on active ingredient</b>	
<p>LD50/oral/rat : &gt; 2 000 mg/kg</p> <p>LD50/dermal/rat : &gt; 2 000 mg/kg</p> <p>Inhalation IC 50(4h) for rats: &gt; 1 mg/l.</p> <p>Skin irritation : Not an irritant, Rabbit.</p> <p>Eye irritation : Mild irritant, Rabbit.</p> <p>Sensitisation : Animal test did not cause sensitization by skin contact, guinea pig.</p>	
<b>12) Ecological Information:</b>	
<p>Fluroxypyr methyl heptyl ester has low toxicity to birds, honey bees and earth worms, and moderate toxicity to fish and aquatic organisms. Fluroxypyr methyl heptyl ester is rapidly degraded to fluroxypyr acid which has low toxicity to fish, birds, honey bees, livestock and aquatic organisms. Fluroxypyr will not bioaccumulate in animal systems.</p> <p><b>Environmental Fate</b></p> <p><b>Animals</b> Hydrolysed to the parent acid, fluroxypyr.</p> <p><b>Plants</b> Hydrolysed to the parent acid, fluroxypyr.</p> <p>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.</p> <p>Biodegradation: Not readily biodegradable.</p> <p>Bio accumulative potential:</p> <p>Not persistent</p> <p>PBT and vPvB assessment: No data available</p>	
<b>13) Disposal Considerations:</b>	
<p><b>Small quantities and containers:</b> 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. If not recycling break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.</p> <p><b>Large quantities:</b> Contact relevant manufacturer and seek advice. Notify regulatory authorities if necessary.</p>	
<b>14) Transportation Information:</b>	
UN NUMBER: 1993	
<p><b>Road Transport ADR/RID:</b></p> <p>Class: 3</p> <p>Packaging group: III</p> <p>Shipping name: Flammable liquid, N.O.S. Flammable liquid, N.O.S. (Contains Fluroxypyr-meptyl)</p>	

**Maritime Transport IMDG/IMO:**

Class: 3

Packing group: III

Shipping name: Flammable liquid, N.O.S. Flammable liquid, N.O.S. (Contains Fluroxypyr-meptyl)

Considered a marine pollutant.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC code): NA

Special precautions: NA

Environmental hazard: Yes, Marine pollutant

**15) Regulatory Information:****Safety, health and environmental regulations / legislation specific for the substance or mixture.**

To avoid risks to man and the environment, comply with all instructions for use.

Advice on handling of the product can be found in sections 7 and 8 of this safety data sheet.

The product has been assessed according to criteria of Worksafe and NOHSC for classifying hazardous substances and is classified as hazardous:

Symbol (s):



Xn – Harmful

Xi – Irritant

N – Dangerous for the Environment

**R-phrases(s):**

- R10 – Flammable
- R65 – Harmful: May cause lung damage if swallowed. (NOHSC).
- R37 – Irritating to respiratory system.
- R38 – Irritating to skin.
- R41 – Risk of serious damage to eyes.
- R51/53 – Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R52/53 – Harmful to aquatic organisms, may cause long-term adverse effects in the environment.
- R65 – Harmful: may cause lung damage if swallowed.
- R66 – Repeated exposure may cause skin dryness or cracking.
- R67 – Vapours may cause drowsiness and dizziness

**S-phrases(s):**

- S2 – Keep out of reach of children.
- S13 – Keep away from food, drink and animal feed.
- S16 – Keep away from sources of ignition — No smoking.
- S20/21 – When using do not eat, drink or smoke.
- S23 – Do not breathe vapour.
- S24/25 – Avoid contact with skin and eyes.
- S46 – If swallowed, seek medical advice immediately and show this container or label.
- S57 – Use appropriate container to avoid environmental contamination.
- S60 – This material and its container must be disposed of as hazardous waste.
- S61 – Avoid release to the environment. Refer to special instructions/ Safety data sheets.

**Full text of H-statements referred to under section 2 and 3****16. Other Information**

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS. The information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. A properly trained person using this product intends this document only as a guide to the appropriate handling of the material. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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