

**Section 1 - Identification of the Material and Supplier**

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**Chemical nature:** Emulsifiable concentrate containing fluroxypyr (as the methyl heptyl ester)

**Trade Name:** eChem Staroxy 200 Herbicide

**APVMA Code:** 61136

**Product Use:** Agricultural herbicide for use as described on the product label.

**Creation Date:** November, 2016

**This version issued:** June, 2021 and is valid for 5 years from this date.

**Poisons Information Centre: Phone 13 1126 from anywhere in Australia**

**Section 2 - Hazards Identification****Statement of Hazardous Nature**

This product is classified as: Hazardous according to the criteria of SWA.

Not subject to the ADG Code when transported in Australia by Road or Rail in packages 500kg (L) or less; or IBCs (refer to SP AU01). However if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG/IMSBC respectively. See details below and in Section 14 of this SDS.

**SUSMP Classification:** None allocated.

**ADG Classification:** Class 9: Miscellaneous dangerous goods.

**UN Number:** 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**GHS Signal word: WARNING**

Flammable liquids Category 4

Aspiration Hazard Category 1

Specific Target Organ Toxicity - Single Exposure Category 3

Hazardous to aquatic environment Short term/Chronic Category 1

**HAZARD STATEMENT:**

H227: Combustible liquid.

AUH066: Repeated exposure may cause skin dryness or cracking.

H304: May be fatal if swallowed and enters airways.

H335: May cause respiratory irritation.

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

**PREVENTION**

P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

P262: Do not get in eyes, on skin, or on clothing.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

P280: Wear protective gloves, protective clothing and eye or face protection.

**RESPONSE**

P362: Take off contaminated clothing and wash before reuse.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.

P381: Eliminate all ignition sources if safe to do so.

P391: Collect spillage.

P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog.

**STORAGE****SAFETY DATA SHEET**



- P404: Store in a closed container.  
P405: Store locked up.  
P410: Protect from sunlight.  
P403+P235: Store in a well-ventilated place. Keep cool.

**DISPOSAL**

- P501: Dispose of contents and containers as specified on the registered label.

**Emergency Overview**

**Physical Description & Colour:** Clear straw-coloured liquid

**Odour:** Slight petroleum-like odour

**Major Health Hazards:** Acute toxicity. Fluroxypyr MHE has low acute toxicity. The rat oral LD<sub>50</sub> is >5000 mg/kg, the rabbit dermal LD<sub>50</sub> is >2000 mg/kg, and the rat inhalation LC<sub>50</sub> is >1.0 mg/L, the maximum attainable concentration. Fluroxypyr MHE is not a skin sensitizer in guinea pigs, has no dermal irritation in rabbits, and shows mild ocular irritation in rabbits.

If aspirated, may cause lung damage, repeated exposure may cause skin dryness or cracking.

**Section 3 - Composition/Information on Ingredients**

Ingredients	CAS No	Conc, g/L	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Fluroxypyr methylheptyl ester	81406-37-3	200	not set	not set
Hydrocarbon liquid	64742-94-5	596	not set	not set
Other non hazardous ingredients	secret	to 1 L	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

**Section 4 - First Aid Measures****General Information:**

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

**Inhalation:** No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

**Skin Contact:** Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

**Eye Contact:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

**Section 5 - Fire Fighting Measures**

**Fire and Explosion Hazards:** The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions.

Fire decomposition products from this product are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Try to contain spills, minimise spillage entering drains or water courses.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

**Flash point:** Approx 70°C

**Upper Flammability Limit:** No data.

**SAFETY DATA SHEET**



**Lower Flammability Limit:** No data.  
**Autoignition temperature:** No data.  
**Flammability Class:** Flammable Category 4 (GHS), C1 combustible (AS 1940)

## Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Wear PVC gloves. Eye/face protective equipment should comprise, as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

## Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** Note that this product is GHS Flammable Class 4 and therefore, for Storage, meets the definition of Dangerous Goods. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Keep away from sources of ignition such as sparks and open flames. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

## Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**. Exposure limits have not been established by SWA for any of the significant ingredients in this product.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**Eye Protection:** Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

**Skin Protection:** The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: PVC.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

## Section 9 - Physical and Chemical Properties:

**Physical Description & colour:** Clear straw-coloured liquid

### SAFETY DATA SHEET



<b>Odour:</b>	Slight petroleum-like odour
<b>Boiling Point:</b>	Not available.
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures.
<b>Volatiles:</b>	No data.
<b>Vapour Pressure:</b>	No data.
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	0.89-1.09
<b>Water Solubility:</b>	Emulsifiable.
<b>pH:</b>	4.5-6.5
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water Distribution:</b>	No data
<b>Autoignition temp:</b>	No data.

## Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** Keep away from sources of sparks or ignition. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** strong oxidising agents.

**Fire Decomposition:** Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form hydrogen chloride gas, other compounds of chlorine. May form hydrogen fluoride gas and other compounds of fluorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

## Section 11 - Toxicological Information

**Toxicity:** Genotoxicity studies show a lack of genotoxicity.

**Reproductive and developmental toxicity:** Studies show that fluroxypyr and fluroxypyr MHE are not teratogenic nor will they interfere with in utero development.

**Subchronic toxicity:** Fluroxypyr MHE showed a NOEL of 1,000 mg/kg/day in a 90-day rat dietary study and a 21-day rabbit dermal study. Ninety day feeding studies with fluroxypyr showed NOELs of 80 mg/kg/day (Wistar rats), 700 mg/kg/day (Fischer 344 rats), 1342 mg/kg/day (male mice), and 1,748 mg/kg/day (female mice). In a 4-week dietary, range finding study with fluroxypyr in dogs the NOEL was >50 mg/kg/day.

**Chronic toxicity:** NOELs found in chronic dietary studies are as follows: 150 mg/kg/day (dog), 300 mg/kg/day (mouse), 80 mg/kg/day (Wistar rats), 100 mg/kg/day (male Fischer 344 rats), and 500 mg/kg/day (female Fischer 344 rats).

**Animal metabolism:** Studies show that fluroxypyr MHE is rapidly hydrolysed and the fate of the hydrolysis products, fluroxypyr and 1-methylheptanol, are independent of whether they were given as the ester or the acid. Fluroxypyr, per se, was extensively absorbed and rapidly excreted principally unchanged in the urine. 1-Methylheptanol also was rapidly absorbed and rapidly eliminated. Repeated administration of fluroxypyr MHE was not associated with accumulation in tissues. Also, the metabolism and pharmacokinetics of methylheptanol are comparable to that of the methylheptyl portion of fluroxypyr MHE.

**Carcinogenicity:** There was no evidence of carcinogenicity in an 18-month mouse feeding study and a 24-month rat feeding study at all dosages tested. The NOELs shown in the mouse and rat oncogenicity studies were 1,000 and 320 mg/kg/day, respectively.

There is no data to hand indicating any particular target organs.

## Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Fluroxypyr Methylheptyl Ester	<ul style="list-style-type: none"><li>• Hazardous to the aquatic environment (acute) - category 1</li><li>• Hazardous to the aquatic environment (chronic) - category 1</li></ul>

## SAFETY DATA SHEET



Hydrocarbon Liquid

Conc&gt;=10%: Xn; R65

- Aspiration hazard - category 1

## Potential Health Effects

### Inhalation:

**Short Term Exposure:** Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term inhalation.

### Skin Contact:

**Short Term Exposure:** Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be mildly irritating, but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.

**Long Term Exposure:** Repeated exposure may cause skin dryness or cracking.

### Eye Contact:

**Short Term Exposure:** This product may be mildly irritating to eyes, but is unlikely to cause anything more than mild discomfort which should disappear once product is removed.

**Long Term Exposure:** No data for health effects associated with long term eye exposure.

### Ingestion:

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term ingestion.

### Carcinogen Status:

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

## Section 12 - Ecological Information

Harmful to aquatic organisms. Not toxic to birds and bees.

**Mobility Soil:** Moderately mobile (Fluroxypyr)

**Persistence/degradability Soil:** The product is not persistent. Half-life time ( $t_{1/2}$ ): 5-9 days (Fluroxypyr), < 7 days (Fluroxypyr-meptyl)

Degradation is primarily via: microorganisms (Fluroxypyr) and hydrolysis (Fluroxypyr-meptyl)

**Water:**  $DT_{50}$  = 1-3 days (Fluroxypyr-methyl)

**Ecotoxicity:** Fish Fluroxypyr:

$LC_{50}$  (96 hours) rainbow trout > 100 mg/L, golden orfe > 100 mg/L, rainbow trout > 0.9 mg/L, solubility limit

Fluroxypyr-meptyl:

Golden orfe > 0.9 mg/L, solubility limit

**Daphnia magna:**

$EC_{50}$  (48 hours) > 100 mg/L (Fluroxypyr) > 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)

**Green algae:**

$EC_{50}$  (96 hours) > 100 mg/L (Fluroxypyr) > 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)

**Birds:**

Bobwhite quail  $LD_{50}$  > 2,000 mg/kg (Fluroxypyr-meptyl & Fluroxypyr)

Mallard duck  $LD_{50}$  > 2,000 mg/kg (Fluroxypyr-meptyl & Fluroxypyr)

**Bees:** Oral  $LD_{50}$  > 100 mg/bee (Fluroxypyr-meptyl), Contact  $LD_{50}$  > 100 mg/bee (Fluroxypyr-meptyl)

## Section 13 - Disposal Considerations

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

## SAFETY DATA SHEET





## Section 14 - Transport Information

Not subject to the ADG Code when transported in Australia by Road or Rail in packages 500kg(L) or less; or IBCs (refer to SP AU01).

**UN Number:** 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**Hazchem Code:** •3Z

**Special Provisions:** 179, 274, 331, 335, AU01

**Limited quantities:** ADG 7 specifies a Limited Quantity value of 5 L for this class of product.

**Dangerous Goods Class:** Class 9: Miscellaneous Dangerous Goods.

**Packing Group:** III

**Packing Instruction:** P001, IBC03, LP01

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

## Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations.

## Section 16 - Other Information

**This SDS contains only safety-related information. For other data see product literature.**

### Acronyms:

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>UN Number</b>	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (Feb 2016)

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## SAFETY DATA SHEET