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(EMERGENCIES ONLY)

Starane* 200 Herbicide

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Not classified as hazardous according to the criteria of The National Occupational Health & Safety Commission (NOHSC).

I. IDENTIFICATION

Product Name: Starane 200 Herbicide
Dangerous Goods Class: None allocated
Shipping Names: None.
Sub Risk Class: None allocated
Product Code: IWD 4153
Packaging Group: None allocated
UN No: None allocated
Poison Schedule: S5
Hazchem Code: None allocated

Uses: For the control of a wide range of broadleaf weeds in fallow, lucerne, maize, millets, pastures, poppies, sorghum, sugar cane, sweetcorn, winter cereals. Also for the control of woody weeds in agricultural non - crop areas, commercial and industrial areas, forests, pastures and rights-of-way, as specified on the label

PHYSICAL APPEARANCE & PROPERTIES

Appearance: Brown to black liquid.
Specific gravity: 0.98 g/mL at 20°C
Boiling point: No data.
Solubility in water: Emulsifiable. (Active ingredient has solubility of about 1 mg/L at 25°C).
Volatile materials: No specific data. Expected to be low at 100°C.
Flashpoint: 67°C (PMCC)
Corrosiveness: Not corrosive.
Vapour Pressure: 1.35 x 10⁻³ mPa at 20°C.
(fluroxypyr methylheptyl ester)

INGREDIENTS

Chemical Entity	CAS No.	Proportion
Fluroxypyr methylheptyl ester (sufficient to give 200 g/L acid equivalent)	081406-37-3	303 g/L
Aromatic petroleum solvent	064742-06-9	586 g/L
Other non hazardous ingredients		< 100 g/L

II. HEALTH HAZARD DATA

Note: The data generated below is for the product Starane 200 Herbicide, unless otherwise stated.

A. Health Effects

Acute

Swallowed: The acute oral toxicity is low and small amounts ingested incidentally due to industrial handling are not likely to be harmful. The oral LD₅₀ (rat) for a similar formulation is above 5000 mg/kg.

Eye: May cause temporary, moderate eye irritation.

Skin: The acute dermal toxicity for a similar formulation is low and a single dermal exposure is not likely to result in absorption of harmful amounts. For a similar formulation the dermal LD₅₀ (rabbit) is above 2000 mg/kg.

Inhaled: The acute inhalation toxicity for a similar formulation is low and absorption of harmful amounts by inhalation is unlikely. Prolonged exposure to the solvent vapours from the concentrate may cause eye and respiratory irritation, headaches and dizziness.

Chronic

Rats and mice administered the active ingredient showed no increase in tumours over control groups. Studies on rats and rabbits showed fluroxypyr does not increase birth defects or interfere with reproduction, nor cause genetic changes. Fluroxypyr does not accumulate in the body. The ingredients are not listed as carcinogenic in NOHSC's document "Exposure Standards for Atmospheric Contaminants in the Occupational Environment" (May 1995).

B. First Aid

General: Consult The National Poisons Information Centre (Ph: 13 11 26) or a Doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

Swallowed: If swallowed, DO NOT induce vomiting. Give a glass of water. Seek medical advice immediately.

Skin: If on skin remove contaminated clothing, wash skin thoroughly with soap and water.

Eyes: If in eyes, hold eyes open and flood with water for at least 15 minutes and see a doctor.

Inhalation: If affected, remove from contaminated area to fresh air.

Advice to Doctor: This product contains petroleum solvents and the benefits of inducing vomiting must be weighed against the possibility of chemical pneumonitis. If lavage is performed, endotracheal or oesphagosopic control is advised. Treat symptomatically with supportive care.

III. PRECAUTIONS FOR USE

- Exposure Standards:** A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by The National Occupational Health & Safety Commission for any of the major ingredients in this product. There is a blanket limit of 10 mg/m³ for dusts or mists when limits have not otherwise been established. The nature of this product makes it unlikely that this level will be approached in normal use. The ADI (Acceptable Daily Intake) for fluroxypyr is set at 0.02 mg/kg/day. The corresponding NOEL (No-observable-effect-level) is set at 20 mg/kg/day. Values taken from Australian ADI List, May 1995.
- Engineering Controls:** In industrial situations, concentration values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.
- Personal Protection:** Avoid contact with eyes and skin. When preparing the spray wear a face shield or goggles. Wash hands after use. After each day's use, wash face shield or goggles and contaminated clothing.

IV. SAFE HANDLING INFORMATION

Storage & Transport:

Not classified as a dangerous good. No special storage and transport requirements. This product has no UN classification. This product is an S6 Poison. Store in tightly closed original container in a securely locked, well-ventilated and cool place, out of direct sunlight. Avoid contact with food, foodstuff empties, feedstuffs, fertilisers, seeds, clothing, drugs or other household goods during transport and storage. Keep from extreme heat and open flames, and make sure that the product does not come into contact with substances listed under "Materials to avoid" below.

Spills

- Small Spill:** Extinguish all sources of ignition. Wear protective equipment (see Personal Protection). Apply absorbent material such as earth, sand, clay granules or cat litter to the spill. Sweep up material when absorption is completed and contain in a refuse vessel for disposal in the same manner as for containers (see Disposal Section). If necessary wash the spill area with an alkali detergent and water and absorb the wash liquid for disposal as above. Prevent entry of chemical or used/damaged containers into drains, streams or waterways.
- Large Spill:** Extinguish all sources of ignition. Wear protective equipment (see Personal Protection). Clear area of all unprotected personnel. 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. Prevent entry of chemical or used/damaged containers into drains, streams or waterways. **Contact Emergency Services on 000 immediately and notify Dow AgroSciences Australia Limited on 1800 033 882 (24 hours) or 1800 700 096 (Mon-Fri, 8am to 5pm EST).**

Disposal

Contaminated material must be disposed of in accordance with all State and/or Local regulations.

- Small quantities and containers:** Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling containers, 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.
- Large quantities:** Contact Dow AgroSciences and seek advice.

Fire & Explosion Hazard

This product is classified as a C1 combustible product. There is a slight risk of an explosion from this product if it is involved in a fire.

Flashpoint: 67°C (PMCC)

Flammability limits: Not applicable. This product is not flammable.

Extinguishing Media: Carbon dioxide, dry chemical, foam, water fog.

Special Fire If a significant quantity of this product is involved in a fire, call the fire brigade.

Fighting procedures: When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and respirator. All skin areas should be covered. Intact containers exposed to excessive heat should be cooled with water to reduce drum pressure. If involved in a fire, use foam blanket to contain product. Avoid using AFFF (aqueous film forming foam).

Unusual Fire & Explosion Hazards: Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Stability: This product is unlikely to spontaneously decompose.

Polymerisation: This product is unlikely to spontaneously polymerise.

Decomposition Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke.

Products: Nitrogen, and under some circumstances, oxides of nitrogen. Hydrogen fluoride gas and fluorides. Water.

Materials to avoid: Strong oxidising agents.

V. OTHER INFORMATION

Ecotoxicity Data

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.

Environmental Fate

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 centimeters of a soil profile. If used according to the label directions, Starane 200 Herbicide will not be harmful to the environment.

VI. CONTACT POINT

FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 1800 700 096 DURING BUSINESS HOURS.

THIS MSDS 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 SHOULD READ THIS MSDS AND CONSIDER THE INFORMATION IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE INCLUDING IN CONJUNCTION WITH OTHER PRODUCTS. IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY. THE 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.