

SAFETY DATA SHEET

TOMAHAWK 200 EC (37960)

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : TOMAHAWK 200 EC (37960)
Chemical name of active ingredient(s) : [(4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy]acetic acid methyl heptyl ester
Manufacturer : Agan Chemical Manufacturers Ltd.
 Northern Industrial Zone,
 P.O.Box 262, Ashdod, Israel.
Emergency telephone number : +972-8-8515211

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Information on hazardous ingredients *

Common name	CAS No.	%	EC Number	Symbol	R-Phrases
Fluroxypyr-meptyl	81406-37-3	28 - 31.2	279-752-9	N	R50/53
Aromatic C-9 solvent	64742-95-6	60 - 70	265-199-0	Xn, N	R10-37-51/53-65--66-67
Alkylaryl sulfonate	68953-96-8	1 - 5	273-234-0	Xi, N	R38-41-51/53

* **Occupational Exposure Limit(s), if available, are listed in section 8**

3. HAZARDS IDENTIFICATION

Most important hazards : Flammable. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness.

4. FIRST-AID MEASURES

Effects and symptoms

First-aid measures : Remove victim from area of exposure. Wash off remaining material with plenty of water.

Inhalation : Remove victim to fresh air. If breathing is difficult: artificial respiration. Get medical attention.

Ingestion : Wash out mouth with plenty of water. Get medical attention. Never give anything by mouth to an unconscious person.

Skin contact : Remove contaminated clothing. Wash away remainder with water and soap.

Eye contact : Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention.

Notes to a physician : There is no specific antidote. Treat symptomatically and give supportive therapy.

Protection of first-aiders : Use appropriate protection (see section 8).

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5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable** : Dry chemical, water spray, foam, carbon dioxide.
- Unusual fire/explosion hazards** : Flashback may occur along vapour trail.
- Hazardous thermal (de)composition products** : Chloride compounds, Fluoride compounds and nitrogen oxides.
- Protection of fire-fighters** : Self-contained breathing apparatus and total protection required in enclosed areas.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear suitable protective clothing.
- Environmental precautions** : Do not discharge into drains or the environment.
- Methods for cleaning up** : Keep away from: open flame, sparks and heat. Absorb remainder in sand or other inert material. Dispose of in an authorized waste collecting point.

7. HANDLING AND STORAGE

- Handling** : Avoid contact with skin and eyes. Ventilation required. Keep away from: sparks, open flame and direct sunlight.
- Storage** : Keep only in the original container. Keep in a cool, dry, well ventilated place away from direct sunlight.
- Packaging materials**
- Suitable** : Multi-layer high density polyethylene extrusion blow containers. Resin-lined metal drums.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Ventilation required.
- Hygiene measures** : When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.
- Occupational Exposure Limits**
- Common name** : **Fluroxypyr-meptyl**
: Not established
- Common name** : **Aromatic C-9 solvent**
TLV (USA) : 25 ppm
- Personal protective equipment**
- Respiratory system** : Respiratory protection is not required if good ventilation is maintained.
- Skin and body** : Wear suitable protective clothing. Chemical resistant boots.
- Hands** : Chemical resistant gloves.
- Eyes** : Safety goggles or face shield.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid
Colour	: Amber - brown
Odour	: Aromatic (solvent)
Boiling point	: 155 - 181°C (Naphta)
Density	: 0.970 ± 0.015 g/mL @ 20°C
Vapour pressure	: 1.35 x 10 ⁻³ mPa @ 20°C (Fluroxypr-meptyl)
Solubility in water	: Emulsifiable
Octanol/water partition coefficient	: log = 4.5 (Fluroxypr-meptyl)
pH	: 5 - 7 CIPAC, MT 75
Flash point	: 55°C
Flammability	: Flammable
Autoignition temperature	: 442°C (Naphta)
Explosion properties	: Naphta (vapours) - May form explosive mixture with air.
Lower explosion limit	: 0.8 volume %
Upper explosion limit	: 7 volume %
Oxidation properties	: Not oxidizing
Viscosity	: 2.96 mm ² /S (20°C)
Other properties	: Surface tension : 29.8 mN/m (25°C)

10. STABILITY AND REACTIVITY

Stability	: Not subject to polymerization.
Materials to avoid	: Oxidizing agents, acids and alkali.
Hazardous reactions	:
Hazardous decomposition products	: Chloride compounds, Fluoride compounds and nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Preparation

Acute toxicity - Oral	: LD ₅₀ (rat) > 2,000 mg/kg
Acute toxicity - Dermal	: LD ₅₀ (rat) > 2,000 mg/kg
Acute toxicity - Inhalation	: LC ₅₀ (rat) > 5.2 mg/L (4 hours)
Skin irritation	: Not irritating
Eye irritation	: Mildly irritating
Sensitization	: Sensitizer
Common name	: Fluroxypr-meptyl
Chronic toxicity	: NOEL: rat = 80 mg/kg/day ; mice = 320 mg/kg/day.
Carcinogenicity	: EPA : Not classified EU : Not classified IARC : Not classified NOEL = 1,000 mg/kg/day (mice) NOEL = 320 mg/kg/day (rat)
Mutagenicity	: Not mutagenic

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Other information : Teratogenicity: Not teratogenic in animal experiments.
 NOAEL = 1,000 mg/kg/day (rat)

12. ECOLOGICAL INFORMATION

Common name : **Fluroxypyr-meptyl**

Mobility : **Soil**
 Moderately mobile (Fluroxypyr)
 Low mobility (Fluroxypyr-meptyl)
 $K_{oc} = 51 - 81$ mL/g (Fluroxypyr)
 $K_{oc} = 6,200 - 43,000$ mL/g (Fluroxypyr-meptyl)

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)
 hydrolysis (Fluroxypyr-meptyl)
 The product is poorly biodegradable.

Water
 DT_{50} (water/sediment) = 2 days (Fluroxypyr-methyl)
 DT_{50} (water/sediment) = 24 days (Fluroxypyr)

Ecotoxicity : **Fish**
 LC_{50} (96 hours) rainbow trout (oncorhynchus mykiss) > 100 mg/L (Fluroxypyr)
 golden orfe > 100 mg/L (Fluroxypyr)
 rainbow trout (oncorhynchus mykiss) > 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)
 golden orfe > 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)
 NOEC (21 days) rainbow trout (oncorhynchus mykiss) = 0.2 mg/L

Daphnia magna
 EC_{50} (48 hours) > 100 mg/L (Fluroxypyr)
 > 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)
 NOEC (21 days) = 0.1 mg/L

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

Birds
 Bobwhite quail (colinus virginianus) $LD_{50} > 2,000$ mg/kg (Fluroxypyr-meptyl & Fluroxypyr)
 Mallard duck (anas platyrhynchos) $LD_{50} > 2,000$ mg/kg (Fluroxypyr-meptyl & Fluroxypyr)

Bees
 Oral $LD_{50} > 100$ µg/bee (Fluroxypyr-meptyl)
 Contact $LD_{50} > 100$ µg/bee (Fluroxypyr-meptyl)
 Contact $LD_{50} > 25$ µg/bee (Fluroxypyr)

Very toxic to aquatic organisms. Not toxic: birds and bees.

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13. DISPOSAL CONSIDERATIONS

Methods of disposal : Dispose of in a pesticide approved landfill, or in a chemical incinerator equipped with scrubbers, In accordance with national and regional regulations.

14. TRANSPORT INFORMATION

International transport regulations

UN number : 1993

Land - Road/Railway

Proper shipping name : Flammable liquid, N.O.S. (Naphtha)
ADR/RID Class : 3, F1, PG III
Hazard Identification Number : 30

Inland waterways

Proper shipping name : Flammable liquid, N.O.S. (Naphtha)
ADNR Class : 3, F1, PG III

Sea

Proper shipping name : Flammable liquid, N.O.S. (Naphtha)
IMDG Class : 3
Packing group : III
Emergency Schedules (EmS) : F-E, S-E

Air

Proper shipping name : Flammable liquid, N.O.S. (Naphtha)
UN/ID Number : 1993
IATA-DGR Class : 3

National transport regulations

No additional national transport regulations are known to the supplier

15. REGULATORY INFORMATION

Classification : This product is provisionally labelled by the supplier in accordance with the suppliers understanding of the EU regulations (Directives 67/548/EEC, 1999/45/EC).

Hazard symbol(s) : Xn, N



HARMFUL



DANGEROUS FOR THE ENVIRONMENT

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Risk phrases : R10: Flammable.
R36/37/38: Irritating to eyes, respiratory system and skin.
R43: May cause sensitization by skin contact.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65: Harmful: may cause lung damage if swallowed.
R67: Vapours may cause drowsiness and dizziness.

Safety phrases : S02: Keep out of the reach of children.
S24: Avoid contact with skin.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37: Wear suitable gloves.
S57: Use appropriate containment to avoid environmental contamination.
S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

The information contained in the Safety Data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.

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