

SAFETY DATA SHEET

TOMAHAWK

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

Product name : TOMAHAWK
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.
Supplier : Makhteshim-Agan (UK) Ltd.
 Unit 16, Thatcham Business Village
 Colthrop Way, Thatcham
 Berkshire RG19 9LW, U.K.
Emergency telephone number : National Chemical Emergency Centre, Tel:01865 407333.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Information on hazardous ingredients *

Common name	CAS No.	%	EC Number	Symbol	R-Phrases
Fluroxy pyr-meptyl	81406-37-3	28 - 31	279-752-9	N	R50/53
Aromatic C-9 solvent (Naphta)	64742-95-6	60 - 65	265-199-0	Xn	R65

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

3. HAZARDS IDENTIFICATION

Most important hazards : Flammable. Irritating to respiratory system. 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).

SAFETY DATA SHEET TOMAHAWK

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 (Naphta)**
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.

SAFETY DATA SHEET

TOMAHAWK

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid
Colour	: Tan
Odour	: Aromatic (solvent)
Boiling point	: 155 - 181°C (Naphta)
Density	: 0.98 ± 0.02 g/mL @ 20°C
Vapour pressure	: 1.35 x 10 ⁻³ mPa @ 20°C (Fluroxypyr-meptyl)
Solubility in water	: 0.9 ppm @ 20°C (Fluroxypyr-meptyl) 91 ppm @ 20°C (Fluroxypyr)
Octanol/water partition coefficient	: log = 4.5 (Fluroxypyr-meptyl)
pH	: 5 - 7 CIPAC, MT 75
Flash point	: 46°C
Flammability	: Flammable
Autoignition temperature	: 450°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

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) > 4,000 mg/kg
Acute toxicity - Inhalation	: LC ₅₀ (rat) > 5 mg/L (4 hours)
Skin irritation	: Moderately irritating (rabbit).
Eye irritation	: Moderately irritating (rabbit).
Common name	: Fluroxypyr-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
Other information	: Teratogenicity: Not teratogenic in animal experiments. NOAEL = 1,000 mg/kg/day (rat)

SAFETY DATA SHEET TOMAHAWK

Ecotoxicity

: Fish

LC₅₀ (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

EC₅₀ (48 hours) > 100 mg/L (Fluroxypyr)

> 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)

NOEC (21 days) = 0.1 mg/L

Green algae

EC₅₀ (96 hours) > 100 mg/L (Fluroxypyr)

> 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)

Birds

Bobwhite quail (colinus virginianus) LD₅₀ > 2,000 mg/kg

(Fluroxypyr-meptyl & Fluroxypyr)

Mallard duck (anas platyrhynchos) LD₅₀ > 2,000 mg/kg

(Fluroxypyr-meptyl & Fluroxypyr)

Bees

Oral LD₅₀ > 100 µg/bee (Fluroxypyr-meptyl)

Contact LD₅₀ > 100 µg/bee (Fluroxypyr-meptyl)

Contact LD₅₀ > 25 µg/bee (Fluroxypyr)

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

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 : 1268

Land - Road/Railway

Proper shipping name : Petroleum distillate, N.O.S.

ADR/RID Class : 3, F1, PG III

Hazard Identification : 30

Number

Inland waterways

Proper shipping name : Petroleum distillate, N.O.S.

ADNR Class : 3, F1, PG III

Sea

Proper shipping name : Petroleum distillate, N.O.S.

IMDG Class : 3 + Marine pollutant

Packing group : III

SAFETY DATA SHEET TOMAHAWK

Emergency Schedules (EmS) : F-E, S-D

Air

Proper shipping name : Petroleum distillate, N.O.S.
UN/ID Number : 1268
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

Risk phrases : R10: Flammable.
R37: Irritating to respiratory system.
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 : S35: This material and its container must be disposed of in a safe way.
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.

HISTORY

Date of printing : 21/10/2003
Date previous issue : 21/10/2003
Date of issue : 21/10/2003

SAFETY DATA SHEET
TOMAHAWK

Version : 002

The version-number is made up of three parts; part 1 is a general information code, part 2 a country-specific code and part 3 a language-specific code

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