

# 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
Fluroxypyr-meptyl	81406-37-3	28 - 31	279-752-9	-	-
Aromatic C-9 solvent (Naphta)	64742-95-6	60 - 65	265-199-0	Xn	R10-20-36/37/38

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

### 3. HAZARDS IDENTIFICATION

**Most important hazards** : Flammable. Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. Harmful to aquatic organisms.

### 4. FIRST-AID MEASURES

**Effects and symptoms**

**Skin contact** : Irritating to skin.  
**Eye contact** : Irritating to eyes.

**First-aid measures**

**Inhalation** : Remove victim from area of exposure. Wash off remaining material with plenty of water.  
 : 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.

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

### 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**

<b>Common name</b>	<b>OEL (United Kingdom)</b>
Fluroxypyr-meptyl	Not established
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.

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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	: Liquid
<b>Colour</b>	: Tan
<b>Odour</b>	: Aromatic (solvent)
<b>Boiling point</b>	: 155 - 181°C (Naphta)
<b>Density</b>	: 0.98 ± 0.02 g/mL @ 20°C
<b>Vapour pressure</b>	: 1.35 x 10 <sup>-3</sup> mPa @ 20°C (Fluroxypyr-meptyl)
<b>Solubility in water</b>	: 0.9 ppm @ 20°C (Fluroxypyr-meptyl) 91 ppm @ 20°C (Fluroxypyr)
<b>Octanol/water partition coefficient</b>	: log = 4.5 (Fluroxypyr-meptyl)
<b>pH</b>	: 5 - 7 CIPAC, MT 75
<b>Flash point</b>	: 46°C
<b>Flammability</b>	: Flammable
<b>Autoignition temperature</b>	: 450°C (Naphta)
<b>Explosion properties</b>	: Naphta (vapours) - May form explosive mixture with air.
<b>Lower explosion limit</b>	: 0.8 volume %
<b>Upper explosion limit</b>	: 7 volume %
<b>Oxidation properties</b>	: Not oxidizing

#### 10. STABILITY AND REACTIVITY

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

#### 11. TOXICOLOGICAL INFORMATION

##### Preparation

<b>Acute toxicity - Oral</b>	: LD <sub>50</sub> (rat) > 2,000 mg/kg
<b>Acute toxicity - Dermal</b>	: LD <sub>50</sub> (rat) > 4,000 mg/kg
<b>Acute toxicity - Inhalation</b>	: LC <sub>50</sub> (rat) > 5 mg/L (4 hours)

<b><u>Common name</u></b>	: <b>Fluroxypyr-meptyl</b>
<b>Chronic toxicity</b>	: NOEL: rat = 80 mg/kg/day ; mice = 320 mg/kg/day.
<b>Carcinogenicity</b>	: EPA : Not classified EU : Not classified IARC : Not classified NOEL = 1,000 mg/kg/day (mice) NOEL = 320 mg/kg/day (rat)
<b>Mutagenicity</b>	: Not mutagenic
<b>Other information</b>	: Teratogenicity: Not teratogenic in animal experiments. NOAEL = 1,000 mg/kg/day (rat)

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### 12. ECOLOGICAL INFORMATION

**Common name** : Fluroxypyr-meptyl

**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)  
hydrolysis (Fluroxypyr-meptyl)

**Water**  
DT<sub>50</sub> = 1-3 days (Fluroxypyr-methyl)

**Ecotoxicity** : **Fish**  
LC<sub>50</sub> (96 hours) rainbow trout > 100 mg/L (Fluroxypyr)  
golden orfe > 100 mg/L (Fluroxypyr)  
rainbow trout > 0.9 mg/L, solubility limit  
(Fluroxypyr-meptyl)  
golden orfe > 0.9 mg/L, solubility limit  
(Fluroxypyr-meptyl)

**Daphnia magna**  
EC<sub>50</sub> (48 hours) > 100 mg/L (Fluroxypyr)  
> 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)

**Green algae**  
EC<sub>50</sub> (96 hours) > 100 mg/L (Fluroxypyr)  
> 0.9 mg/L, solubility limit (Fluroxypyr-meptyl)

**Birds**  
Bobwhite quail LD<sub>50</sub> > 2,000 mg/kg (Fluroxypyr-meptyl & Fluroxypyr)  
Mallard duck LD<sub>50</sub> > 2,000 mg/kg (Fluroxypyr-meptyl & Fluroxypyr)

**Bees**  
Oral LD<sub>50</sub> > 100 µg/bee (Fluroxypyr-meptyl)  
Contact LD<sub>50</sub> > 100 µg/bee (Fluroxypyr-meptyl)  
Contact LD<sub>50</sub> > 25 µg/bee (Fluroxypyr)

Harmful 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, Label 3

ADR/RID Item number : 31c

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**Packing group** : III  
**Hazard Identification Number** : 30

**Inland waterways**

**Proper shipping name** : Petroleum distillate, N.O.S.  
**ADNR Class** : 3, 31c, Label 3

**Sea**

**Proper shipping name** : Petroleum distillate, N.O.S.  
**IMDG Class** : 3.3, Label 3 + Marine pollutant  
**IMDG Page number** : 3375  
**Packing group** : III  
**Medical First Aid Guide (MFAG)** : 311  
**Emergency Schedules (EmS)** : 3-0

**Air**

**Proper shipping name** : Petroleum distillate, N.O.S.  
**UN/ID Number** : 1268  
**IATA-DGR Class** : 3

**National transport regulations**

**United Kingdom** : No additional national transport regulations are known to the supplier

#### 15. REGULATORY INFORMATION

**Classification** : Country-specific classification - United Kingdom.

**Risk phrases** : R10: Flammable.

**Safety phrases** : S07: Keep container tightly closed.  
S23D: Do not breathe spray.  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S28: After contact with skin, wash immediately with plenty of water.  
S29: Do not empty into drains.  
S49: Keep only in the original container.  
S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

**United Kingdom** : No additional national regulations are known to the supplier

#### 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** : 18/01/2000  
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**SAFETY DATA SHEET**  
**TOMAHAWK**

**Version** : 001.00.00

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