



SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) Annex II

Tomahawk

Revision Date 12-Nov-2014

Version 1

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H-0031-37960-RAII / 37960

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Tomahawk

Synonyms Fluroxypyr 200 EC
Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Herbicide
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier Address ADAMA Agricultural Solutions UK Ltd
Unit 15, Thatcham Buisness Village Colthrop Way,
Thatcham Berkshire RG19 4LW, UK : 01635 860555
Fax: 01635 861555

For further information, please contact

Email address ukenquiries@adama.com

1.4. Emergency telephone number

Emergency Telephone National Chemical Emergency Centre (UK):
Tel: 01865 407333 (24 hours)

Section 2: HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aspiration hazard	Category 1 - (H304)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1 - (H317)
Specific target organ toxicity (single exposure)	Category 3 - (H335) ; -(H336)
Acute aquatic toxicity	Category 1 - (H400)
Hazardous to the Aquatic Environment - Chronic Hazard	Category 1 - (H410)
Flammable liquids	Category 3 - (H226)

Classification according to Directive 67/548/EEC or 1999/45/EC

Full text of R-phrases: see section 16

R10 - Xi;R36/37/38 - R43 - Xn;R65 - R67 - N;R51/53

2.2. Label elements**Labeling according to Regulation (EC) No. 1272/2008 [CLP]****Hazard pictograms****Signal word**

Danger

Hazard Statements

H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H410 - Very toxic to aquatic life with long lasting effects
 H226 - Flammable liquid and vapor

Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 P280 - Wear protective gloves and eye/face protection
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P331 - Do NOT induce vomiting
 P501 - Dispose of contents/ container to an approved waste disposal plant

EU Specific Hazard Statements

EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

Additional phrases for PPP

SP1 - Do not contaminate water with the product or its container

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Name	Weight-%	CAS No	EC No	Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Classification according to 67/548/EEC	M-Factor	REACH Registration Number
Fluroxypyr-meptyl	29.7	81406-37-3	279-752-9	607-272-00-5	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	N; R50-53		-

Hydrocarbons, C9, aromatics	>60 - <70	N/A	918-668-5	-	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) STOT SE 3 (H335) STOT SE 3 (H336) (EUH066) Aquatic Chronic 2 (H411)	F; R10 Xn; R65 Xi; R37 R67 R66 N; R51/53		-
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	< 5	68953-96-8	273-234-6	-	-	-		-
Hexan-1-ol	< 5	111-27-3	203-852-3	603-059-00-6	Acute Tox. 4 (H302)	Xn; R22		-
Hydrocarbons, C10, aromatics, <1% naphthalene	< 1	N/A	918-811-1	-	Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 2 (H411) (EUH066)	Xn;R65, R66, R67, N;R51/53		01-21194635 83-34

Full text of R-phrases: see section 16

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!.

Inhalation

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Ingestion

Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Immediate medical attention is required. Never give anything by mouth to an unconscious person.

Self-protection of the first aider

Use personal protective equipment as required.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms

See also section 11

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

5.2. Special hazards arising from the substance or mixture

No specific hazard known.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus
In the event of fire and/or explosion do not breathe fumes

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****Personal precautions**

Remove all sources of ignition. Evacuate personnel to safe areas. Use only with adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up**Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections**Other Information**

See also section 8,13

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling****Advice on safe handling**

Use only with adequate ventilation. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

General Hygiene Considerations

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a cool, well-ventilated place.

7.3. Specific end use(s)**Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Hexan-1-ol 111-27-3					TWA: 50 ppm TWA: 210 mg/m ³

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Body Protection

Tight sealing safety goggles.

Antistatic footwear, Wear fire/flamm resistant/retardant clothing, Gloves made of plastic or rubber, Suitable protective clothing, Apron.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Appearance			
Physical state	: Liquid		
Color	: brown		
Odor	: Aromatic		
Odor threshold	: No data available		
pH	: 5.3	CIPAC MT 75.2	solution (1 %)
Melting point/freezing point °C	: ----		Not Applicable
Boiling point/boiling range °C	: ----		No data available
Flash point °C	: 55	CIPAC MT 12	CC (closed cup)
Evaporation rate	: Not Applicable		
Flammability (solid, gas)	: Not Applicable		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: ----		Not Applicable
Vapor density	: No data available		
Relative density	: 0.9698		20 °C
Solubility(ies) mg/l	: ----		
Partition Coefficient (n-octanol/water) Log Pow	:		See Section 12 for more information
Autoignition temperature °C	: 442	EEC A.15	
Decomposition temperature °C	: ----		
Kinematic viscosity mm²/s 40 °C	: 2.96	ASTM D455	20 °C
Explosive properties	: Not an explosive	EEC A.14	
Oxidizing properties	: No data available		

9.2. Other information

Bulk density g/ml	:		
Surface tension mN/m	: 27	EEC A.5	25 °C
Minimum ignition energy (MIE) mJ	:		

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Not available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization

Hazardous polymerization does not occur.

None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible with strong acids and bases

10.6. Hazardous decomposition products

None under normal use conditions.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: > 2000-3500	Rat		male
Dermal LD50 mg/kg	: > 5000	Rat		
Inhalation LC50 mg/l/4h	: ----			No data available
Skin corrosion/irritation	: Severe skin irritation			
Serious eye damage/eye irritation	: Moderately irritating to the eyes			
Respiratory/skin sensitization	: Skin sensitizer	Guinea pig		

Chronic toxicity

Germ cell mutagenicity

Chemical Name
Fluroxypyr-meptyl : Not classified

Carcinogenicity

Chemical Name
Fluroxypyr-meptyl : Not Carcinogenic

Reproductive toxicity

Chemical Name
Fluroxypyr-meptyl : Not toxic for the reproductive system

STOT - single exposure

Chemical Name
Fluroxypyr-meptyl : Not available

STOT - repeated exposure**Chemical Name**

Fluroxypyr-meptyl : Not available

Aspiration hazard**Chemical Name**

Fluroxypyr-meptyl : Not available

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity****Aquatic toxicity**

Acute toxicity	Values	Species	Method	Remarks
Fish 96-hour LC50 mg/l	: 8.5	Rainbow trout	OECD 203	
Crustacea 48-hour EC50 mg/l	: 6.2	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: > 40, 0.684	P. subcapitata Navicula sp.	OECD 201	
Other plants EC50 mg/l	: ----			No data available

Terrestrial Toxicity**Birds Oral LD50 mg/kg****Chemical Name**

Fluroxypyr-meptyl : > 2000 Bobwhite quail

Bees Oral LD50 µg/bee**Chemical Name**

Fluroxypyr-meptyl : > 100

12.2. Persistence and degradability

Abiotic Degradation	Values	Method	Remarks
Water DT50 days			
Chemical Name			
Fluroxypyr-meptyl	: 38.1		
Soil DT50 days			
Chemical Name			
Fluroxypyr-meptyl	: 1		
Biodegradation			
Chemical Name			
Fluroxypyr-meptyl	: No data available		

12.3. Bioaccumulative potential

Partition Coefficient (n-octanol/water) Log Pow	Values	Method	Remarks
Chemical Name			
Fluroxypyr-meptyl	: 5.04		pH 7
Bioconcentration factor (BCF)			
Chemical Name			
Fluroxypyr-meptyl	: 26		

12.4. Mobility in soil

Adsorption/Desorption	Values	Method	Remarks
Chemical Name			

Fluroxypyr-meptyl

: 19550

Koc

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB

12.6. Other adverse effects

No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods**Waste from residues/unused products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Improper disposal or reuse of this container may be dangerous and illegal.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORTATION INFORMATION

IMDG/IMO

14.1 UN/ID No	1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
14.3 Hazard Class	3
14.4 Packing Group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	

RID/ADR

14.1 UN/ID No	1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
14.3 Hazard Class	3
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	

ICAO/IATA

14.1 UN/ID No	1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
14.3 Hazard Class	3
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable



Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.2. Chemical safety assessment**

A chemical safety assessment according to regulation (EC) No. 1907/2006 is not required. A risk assessment was performed according to directive (EC) No. 91/414 or according to regulation (EC) No. 1107/2009.

Section 16: OTHER INFORMATION**Full text of R-phrases referred to under sections 2 and 3**

R10 - Flammable
R22 - Harmful if swallowed
R36 - Irritating to eyes
R37 - Irritating to respiratory system
R38 - Irritating to skin
R41 - Risk of serious damage to eyes
R43 - May cause sensitization by skin contact
R50 - Very toxic to aquatic organisms
R65 - Harmful: may cause lung damage if swallowed
R66 - Repeated exposure may cause skin dryness or cracking
R67 - Vapors may cause drowsiness and dizziness
R36/37/38 - Irritating to eyes, respiratory system and skin
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects
H410 - Very toxic to aquatic life with long lasting effects

Revision Note *** - Change from previous version.

Further information Fluroxypyr-meptyl (ISO), Dow IHG, TWA: 10 mg/m³

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet