



# SAFETY DATA SHEET

## Tomahawk 200 EC

Revision Date 23-Dec-2018

Version 1

Product No HRB00952-27

Publish Date 23-Dec-2018

H-0031-37960-RAII 37960 37960

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

#### Product identifier

## Tomahawk 200 EC

Synonyms

Fluroxypyr 200 EC

Pure substance/mixture

Mixture

#### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use

Herbicide

Uses advised against

No information available

#### Details of the supplier of the safety data sheet

Supplier Address

ADAMA SOUTH AFRICA (PTY) LTD  
Ground Floor, Simeka House  
The Vineyards Office Estate  
99 Jip de Jager Drive  
Bellville 7530

For further information, please contact

Email address

SDS@ADAMA.COM

Emergency Telephone

Emergency Telephone

+ 27 82 446 8946

+ 27 86 155 5777

+ 27 21 982 1460

### Section 2: HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

Aspiration toxicity	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)
Chronic aquatic toxicity	Category 1 - (H410)
Flammable liquids	Category 3 - (H226)

#### Label Elements

**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**

P102 - Keep out of reach of children  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 P302 + P352 - IF ON SKIN: Wash with plenty of 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

**Other Hazards**

No information available

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****Mixture**

Chemical Name	Weight-%	CAS No	EC No	GHS Classification	M-Factor
Fluroxypyr-meptyl	29.7	81406-37-3	279-752-9	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=1
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	< 5	68953-96-8	273-234-6	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)	
Hexan-1-ol	< 5	111-27-3	203-852-3	Flam. Liq. 3 (H226) Acute Tox. 4 (H302) Eye Irrit. 2 (H319) STOT SE 3 (H336)	
Hydrocarbons, C10, aromatics, <1% naphthalene	< 1	N/A	918-811-1	Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 2 (H411)	
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) Aquatic Chronic 2 (H411)	

## Section 4: FIRST AID MEASURES

### First aid measures

<b>General advice</b>	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!.
<b>Inhalation</b>	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
<b>Eye contact</b>	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. Immediately consult an ophthalmologist and show this SDS or the label or the packaging.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Immediate medical attention is required. Never give anything by mouth to an unconscious person.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.

### Most important symptoms and effects, both acute and delayed

**Symptoms** See also section 11

### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Treat symptomatically.

## Section 5: FIRE-FIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

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

#### **Unsuitable Extinguishing Media**

No information available.

### Special hazards arising from the substance or mixture

No specific hazard known.

### 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

### 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.

**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.

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

**Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal.

**Reference to other sections**

**Other Information**

See also section 8,13

**Section 7: HANDLING AND STORAGE**

**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.

**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.

**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**

**National occupational exposure limits**

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

**Exposure controls**

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

**Eye/face protection**

Tight sealing safety goggles.

**Hand Protection**

Gloves made of plastic or rubber.

**Body Protection**

Antistatic footwear, Wear fire/flame resistant/retardant clothing, Gloves made of plastic or

rubber, Suitable protective clothing, Apron.

**Respiratory protection** Use only with adequate ventilation.

**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

### Physical and Chemical Properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
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	: 0.92 - 1.02		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 mm <sup>2</sup> /s 40 °C	: 2.96	ASTM D455	20 °C
Explosive properties	: Not an explosive	EEC A.14	
Oxidizing properties	: No data available		
<b>Other Information</b>			
Bulk density g/ml	:		
Surface tension mN/m	: 27	EEC A.5	25 °C

## Section 10: STABILITY AND REACTIVITY

### Reactivity

Not available.

### Chemical stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

None under normal processing.

### Conditions to avoid

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

### Incompatible Materials

Incompatible with strong acids and bases

### Hazardous Decomposition Products

None under normal use conditions.

## Section 11: TOXICOLOGY INFORMATION

### 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

### Toxicity

#### Aquatic toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Acute toxicity 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	OECD 201	

Other plants EC50 mg/l : ---- Navicula sp. 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

**Persistence and degradability**

<b>Abiotic Degradation</b>	<b><u>Values</u></b>	<b><u>Method</u></b>	<b><u>Remarks</u></b>
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<b>Water DT50 days</b>			
<b>Chemical Name</b>			
Fluroxypyr-meptyl	: 38.1		

<b>Soil DT50 days</b>			
<b>Chemical Name</b>			
Fluroxypyr-meptyl	: 1		

<b>Biodegradation</b>			
<b>Chemical Name</b>			
Fluroxypyr-meptyl	: No data available		

**Bioaccumulative potential**

<b>Partition Coefficient (n-octanol/water) Partition Coefficient (n-octanol/water) Log Pow</b>	<b><u>Values</u></b>	<b><u>Method</u></b>	<b><u>Remarks</u></b>
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<b>Chemical Name</b>			
Fluroxypyr-meptyl	: 5.04		pH 7.0

<b>Bioconcentration factor (BCF)</b>			
<b>Chemical Name</b>			
Fluroxypyr-meptyl	: 26		

**Mobility in soil**

<b>Adsorption/Desorption</b>	<b><u>Values</u></b>	<b><u>Method</u></b>	<b><u>Remarks</u></b>
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<b>Chemical Name</b>			
Fluroxypyr-meptyl	: 19550		Koc

**Results of PBT and vPvB assessment**

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

**Other adverse effects**

No information available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Waste from residues/unused products</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
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<b>Contaminated packaging</b>	Improper disposal or reuse of this container may be dangerous and illegal.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used.

## Section 14: TRANSPORTATION INFORMATION

### IMDG/IMO

<b>UN/ID No *</b>	1993
<b>Proper shipping name</b>	FLAMMABLE LIQUID, N.O.S. ( Hydrocarbons, C9, aromatics )
<b>Hazard Class</b>	3
<b>Packing Group</b>	III
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	

### RID/ADR

<b>UN/ID No *</b>	1993
<b>Proper shipping name</b>	FLAMMABLE LIQUID, N.O.S. ( Hydrocarbons, C9, aromatics )
<b>Hazard Class</b>	3
<b>Packing Group</b>	III
<b>Environmental hazard</b>	Yes
<b>Special precautions for user</b>	

### ICAO/IATA

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



\* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids.

## Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

## Section 16: OTHER INFORMATION

<b>Revision Note</b>	Changes made to the last version are labeled with this sign ***.
<b>Further information</b>	Fluroxypyr-meptyl (ISO), Dow IHG, TWA: 10 mg/m <sup>3</sup>

#### List of Acronyms

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
CAS Number - Chemical Abstracts Service number  
EC Number - EINECS and ELINCS Number  
EINECS - European Inventory of Existing Commercial Substances  
ELINCS - European List of notified Chemical Substances  
IATA - International Air Transport Association  
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG - International Maritime Dangerous Goods  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
OECD - Organization for Economic Co-operation and Development  
PBT - Persistent, Bioaccumulative and Toxic substance  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
STOT - Specific Target Organ Toxicity  
vPvB - Very Persistent and Very Bioaccumulative

#### 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