



SAFETY DATA SHEET

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

2,4-d/Fluroxypyr/Clopyralid 480 EC

Revision Date 11-Nov-2015

Version 1

Product No HRB00991

Publish Date 11-Nov-2015

H-221-SO-RAII AG-CDF1-480 EC

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

1.1. Product identifier

2,4-d/Fluroxypyr/Clopyralid 480 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 Agan Ltd P.O.B. 262 ASHDOD Israel
------------------	---

For further information, please contact

Email address	SDS@ADAMA.COM
---------------	---------------

1.4. Emergency telephone number

Emergency Telephone	+972-03-6106666 Subscription no. 36789 (ADAMA Makhteshim Ltd.)
---------------------	--

Section 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Acute toxicity - Oral	Category 4 - (H302)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Hazardous to the Aquatic Environment - Chronic Hazard	Category 2 - (H411)

2.2. Label elements

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

Hazard pictograms**Signal word**

Danger

Hazard Statements

H302 - Harmful if swallowed
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements

P102 - Keep out of reach of children
 P270 - Do not eat, drink or smoke when using this product
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 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
 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 (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

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]	M-Factor	REACH Registration Number
2,4-D ester	52-58	1928-43-4	217-673-3	607-308-00-X	Acute Tox. 4 (H302) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=1	-
Fluroxypyr-meptyl	8-12	81406-37-3	279-752-9	607-272-00-5	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=1	-
Clopyralid (ISO)	2-4	1702-17-6	216-935-4	607-231-00-1	Eye Dam. 1 (H318)		-
2-Ethylhexanol	1-3	104-76-7	203-234-3	-	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H332)		01-211948728 9-20
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt	1-3	90194-26-6	-	-	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)		01-211956059 2-37

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. Immediate medical attention is required.
Ingestion	Rinse mouth. Drink plenty of water. Call a physician or poison control center immediately.
Self-protection of the first aider	Use personal protective equipment as required.

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

Symptoms None known

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

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

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

Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Use with local exhaust ventilation.

General Hygiene Considerations

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

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

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
2,4-D ester 1928-43-4					TWA: 1 mg/m ³ Ceiling / Peak: 8 mg/m ³ Skin
2-Ethylhexanol 104-76-7					TWA: 10 ppm TWA: 54 mg/m ³ Ceiling / Peak: 10 ppm Ceiling / Peak: 54 mg/m ³ TWA: 20 ppm TWA: 110 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
2,4-D ester 1928-43-4	Skin STEL 4 mg/m ³ TWA: 1 mg/m ³	Skin STEL: 8 mg/m ³ TWA: 1 mg/m ³			
2-Ethylhexanol 104-76-7	Skin STEL 100 ppm STEL 540 mg/m ³ TWA: 50 ppm TWA: 270 mg/m ³	STEL: 20 ppm STEL: 110 mg/m ³ TWA: 20 ppm TWA: 110 mg/m ³	STEL: 320 mg/m ³ TWA: 160 mg/m ³		

8.2. 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	Suitable protective clothing, Apron, Gloves made of plastic or rubber.
General Hygiene Considerations	When using do not eat, drink or smoke. Wash contaminated clothing before reuse. 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	: amber		
Odor	: Aromatic		
Odor threshold	: No data available		
pH	: 2.3 - 3.3	CIPAC MT 75.3	
Melting point/freezing point °C	: ----		Not Applicable
Boiling point/boiling range °C	: ----		Not Applicable
Flash point °C	: 111.2	ASTM D7094	
Evaporation rate	: Not Applicable		
Flammability (solid, gas)	: Not applicable for liquids		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: ----		Not Applicable
Vapor density	: No data available		
Relative density	: 1.045 - 1.145	CIPAC MT 3.1	
Solubility(ies) mg/l	: ----		Not Applicable
Partition Coefficient (n-octanol/water) Log Pow	: ----		See Section 12 for more information
Autoignition temperature °C	: ----		No data available
Decomposition temperature °C	: No data available		
Kinematic viscosity mm²/s 40 °C	: 28	OECD 114	
Explosive properties	: Not an explosive	EEC A.14	
Oxidizing properties	: Not oxidizing	EEC A.21	

9.2. Other information

Bulk density g/ml	:		
Surface tension mN/m	: 29.6	EEC A.5	25 °C

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

No information available

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	: 500	Rat	OECD 423	
Dermal LD50 mg/kg	: > 2000	Rat	OECD 402	
Inhalation LC50 mg/l/4h	: 5.08	Rat	OECD 403	
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Severely irritating to eyes	Rabbit	OECD 405	
Respiratory/skin sensitization	: Skin sensitizer	Guinea pig	OECD 429	

Chronic toxicity

Germ cell mutagenicity

Chemical Name

2,4-D ester	: Not classified
Fluroxypyr-meptyl	: Not classified
Clopyralid (ISO)	: Not classified

Carcinogenicity

Chemical Name

2,4-D ester	: Not Carcinogenic
Fluroxypyr-meptyl	: Not Carcinogenic
Clopyralid (ISO)	: Not Carcinogenic

Reproductive toxicity

Chemical Name

2,4-D ester	: Not toxic for the reproductive system
Fluroxypyr-meptyl	: Not toxic for the reproductive system
Clopyralid (ISO)	: Not toxic for the reproductive system

STOT - single exposure

Chemical Name

2,4-D ester	: Not available
Fluroxypyr-meptyl	: Not available
Clopyralid (ISO)	: No data available

STOT - repeated exposure

Chemical Name

2,4-D ester	: Not available
Fluroxypyr-meptyl	: Not available
Clopyralid (ISO)	: No data available

Aspiration hazard

Chemical Name	
2,4-D ester	: Not available
Fluroxypyr-meptyl	: Not available
Clopyralid (ISO)	: No

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Aquatic toxicity

Acute toxicity	Values	Species	Method	Remarks
Fish 96-hour LC50 mg/l	: > 100	Oncorhynchus mykiss	OECD 203	
Crustacea 48-hour EC50 mg/l	: > 100	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: > 100	P. subcapitata	OECD 201	
Other plants EC50 mg/l	: 82.1	Lemna gibba	OECD 221	

Terrestrial Toxicity

Birds Oral LD50 mg/kg

Chemical Name		
2,4-D ester	: > 633	Japanese quail
Fluroxypyr-meptyl	: > 2000	Bobwhite quail
Clopyralid (ISO)	: 1465	Mallard duck

Bees Oral LD50 µg/bee

Chemical Name	
2,4-D ester	: 100
Fluroxypyr-meptyl	: > 100
Clopyralid (ISO)	: > 100

12.2. Persistence and degradability

Abiotic Degradation	Values	Method	Remarks
Water DT50 days			
Chemical Name			
2,4-D ester	: 0.1	OECD 308	
Fluroxypyr-meptyl	: 38.1		
Clopyralid (ISO)	: No data available		

Soil DT50 days

Chemical Name		
2,4-D ester	: 1.4	OECD 307
Fluroxypyr-meptyl	: 1	
Clopyralid (ISO)	: 14 - 56	

Biodegradation

Chemical Name		
2,4-D ester	: Not available	
Fluroxypyr-meptyl	: No data available	
Clopyralid (ISO)	: Readily biodegradable	readily biodegradable

12.3. Bioaccumulative potential

Partition Coefficient (n-octanol/water) Log Pow	Values	Method	Remarks
Chemical Name			
2,4-D ester	: 5.78	OECD 121	25° C
Fluroxypyr-meptyl	: 5.04		pH 7
Clopyralid (ISO)	: - 2.63		pH 7

Bioconcentration factor (BCF)**Chemical Name**

2,4-D ester	:	Not available
Fluroxypyr-meptyl	: 26	
Clopyralid (ISO)	:	

12.4. Mobility in soil

Adsorption/Desorption	Values	Method	Remarks
Chemical Name			
2,4-D ester	: 84540	OECD 121	Koc
Fluroxypyr-meptyl	: 19550		Koc
Clopyralid (ISO)	: 4.64		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	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ester Fluroxypyr-meptyl)
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	

RID/ADR

14.1 UN/ID No	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ester Fluroxypyr-meptyl)
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	

ICAO/IATA

14.1 UN/ID No	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ester Fluroxypyr-meptyl)
14.3 Hazard Class	9
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 H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Revision Note *** - Change from previous version.

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