

MATERIAL SAFETY DATA SHEET

PLUSS

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

1.1	PRODUCT IDENTIFIER	PLUSS
	CHEMICAL NAME	1-methylheptyl (4-amino-3,5-dichloro-6-fluoro-2-pyridyloxyacetate) (IUPAC)
1.2	RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST	Herbicide
1.3	COMPANY/UNDERTAKING IDENTIFICATION	<p>STOCKTON EUROPE LTD Mail address: Baarestrasse 112, ZUG 6302, Switzerland.</p> <p>Registered address: 80 Sidney Street, Folkestone, Kent CT19 6HQ, UK, e-mail : ahmed@stockton-ag.com Tel. : +972 (0)72 2570026 Fax : +972 (0) 72 2570027</p>
1.4	EMERGENCY TELEPHONE NUMBER	INFOTRAC: 1-800-535-5053

2. HAZARDOUS IDENTIFICATION

2.1 Classification of the mixture

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

- **Physical/chemical hazards:** Flam. Liq. 3 – Category 3 – Warning - H226
- **Health hazards:**
 - Asp. Tox. 1 – Category 1 – Danger – H304
 - Skin Irrit. 2 – Category 2 – Warning – H315
 - Skin Sens. 1 – Category 1 – Warning - H317
 - Eye Irrit. 2 – Category 2 – Warning - H319
 - STOT SE 3 – Category 3 – Warning - H335
 - STOT SE 3 – Category 3 – Warning - H336
- **Environmental hazards:** Aquatic Chronic 1 – Category 1 - Warning - H410

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

- **Physicochemical hazards:** Flammable (R10)
- **Health hazards:** Irritating to eyes, respiratory system and skin (R36/37/38)
May cause sensitization by skin contact (R43)
Harmful: may cause lung damage if swallowed (R65)
Vapours may cause drowsiness and dizziness (R67)
- **Environmental hazards:** Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment (R50/53)

2.2 Label elements

Labelling Regulation (EC) 1272/2008

- **Hazard pictograms:**



- **Hazard pictograms-Codes:** GHS02 GHS07 GHS08 GHS09
- **Signal words:** Warning

Hazard statements: H226 - Flammable liquid and vapor
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 and dizziness
H410 - Toxic to aquatic life with long lasting effects

Precautionary statements:

- **Prevention:** P262: Do not get in eyes, on skin, or on clothing
P273: Avoid release to the environment
P280: Wear protective gloves.
- **Response:** P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- **Disposal:** P501: Dispose of contents/container to in accordance with local regulation

Labeling according to Directive 67/548/EEC and 1999/45/EC

Hazard symbol(s):

Xn



HARMFUL

N



DANGEROUS FOR THE ENVIRONMENT

Risk phrases:

R10: Flammable.
R36/37/38: Irritating to eyes, respiratory system and skin.
R43: May cause sensitization by skin contact.
R50/53: Very 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:

S02: Keep out of the reach of children
S13: Keep away from food, drink and animal feedingstuffs
S23: Do not breathe spray
S24: Avoid contact with skin.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37: Wear suitable protective clothing and gloves
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

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture*

Name	CAS No.	EC No.	Index No.	% w/w	Classification according to 67/548/EEC	Classification according to Regulation (EC) No. 1272/2008 (CLP)
Fluroxypyr-meptyl	81406-37-3	279-752-9	607-272-00-5	28.2-31.1	Dangerous for the environment; N; R50/53	Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Alkylaryl sulfonate	68953-96-8	273-234-6	None	0.1-0.2	Irritant; Xi; R38 Irritant; Xi; R41 Dangerous for the environment; N; R51/53	None
Solvent naphtha (petroleum), light Arom	64742-95-6	265-199-0	649-356-00-4	64-69	Flammable; R10 Irritant; xi; R37 Dangerous for the environment; N; R51/53 R65 R66 Note Phrase Code P applies	Asp. Tox. 1; H304 Note Phrase Code P applies

For occupational exposure limits see Section 8.
For full text of phrases see Section 16.

4. FIRST AID MEASURES	
4.1 Description of first aid measures	
General notes	Remove victim from area of exposure. Wash off remaining material with plenty of water.
Eye contact	Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention
Skin contact	Remove contaminated clothing. Wash away remainder with water and soap
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.
4.2 Most important symptoms and effects	
4.3 Indication of any immediate medical attention and special treatment needed	
No specific antidote. Signs and symptoms of excessive exposure may be central nervous system effects such as headache, dizziness or anaesthesia. If lavage is performed, suggest endotracheal and/or oesophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Supportive care. Treatment based on judgment of physician in response to symptoms of patient.	
5. FIRE-FIGHTING MEASURES	
5.1 Extinguishing media:	Dry chemical, water fog or fine spray, foam, carbon dioxide. Avoid using water jet
5.2 Special hazards arising from the substance or mixture	
Fire and explosive hazards:	Flash point: 50.1°C. Flashback may occur along vapor trail
Hazardous thermal (de)composition products	Carbon oxides, chloride compounds, fluoride compounds and nitrogen oxides.
5.3 Protection of fire-fighters	Self-contained breathing apparatus and total protection required in enclosed areas
Additional Information	Keep containers cool by spraying with water. Contain runoff to prevent entry into water or drainage systems
6. ACCIDENTAL RELEASE MEASURES	
6.1 Personal precautions	Wear suitable protective clothing.
6.2 Environmental precautions	Do not discharge into drains or the environment
6.3 Methods for cleaning up	Absorb remainder in sand or other inert material. Dispose of in an authorized waste collecting point.

7. HANDLING AND STORAGE	
7.1 Handling	Avoid contact with skin and eyes. Ventilation required. Keep away from: Sparks, open flame and direct sunlight
7.2 Storage	Keep only in the original container. Keep in a cool, dry, well ventilated place away from direct sunlight.
8. EXPOSURE CONTROLS/ PERSONAL PROTECTION	
8.1 Control parameters	
Industrial Hygiene measures	Ventilation required. When handlings do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use. Contaminated work clothing should not be allowed out of the workplace.
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
8.2 Occupational Exposure Limits	
Fluroxypyr-meptyl:	Not established
Alkylaryl sulfonate:	Not established
Solvent naphtha:	Suppliers recommendation is 200 mg/m ³
9. PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE (<i>Visual method</i>)	Liquid
COLOUR (<i>Visual method</i>)	Amber
ODOUR	White-spirit like odour
BOILING POINT	155 - 181°C (Solvent naphtha)
FLASH POINT (<i>EEC A9</i>)	50.1°C
FLAMMABILITY	Flammable
AUTOIGNITION TEMPERATURE (<i>EEC A15</i>)	> 450°C (Solvent naphtha)
EXPLOSIVE PROPERTIES (<i>theoretical consideration</i>)	Not explosive; however, solvent naphtha (vapours) - May form explosive mixture with air
Lower explosion limit	0.8% volume
Upper explosion limit	7 % volume
OXIDIZING PROPERTIES (<i>theoretical consideration</i>)	Not oxidizing
VAPOUR PRESSURE	1.35 x 10 ⁻³ mPa @ 20°C (Fluroxypyr-meptyl) 0.2 kPa @ 20°C (Solvent naphtha)
DENSITY (<i>EEC A3</i>)	0.970 ± 0.015 g/mL @ 20°C

pH (CIPAC MT 75.1)	5-7
WATER SOLUBILITY	Emulsifiable
OCTANOL/WATER PARTITION COEFFICIENT	Log P = 4.53 (pH 5), 5.04 (pH 7) (fluroxypyr-meptyl)
VISCOSITY (OECD 114)	2.95 mPaS @ 40°C
SURFACE TENSION (EEC A5)	29.54 mN/m @ 25°C
10. STABILITY AND REACTIVITY	
10.1 Reactivity	Not subject to polymerization
10.2 Stability	Stable under normal storage conditions.
10.3 Conditions to avoid	Heat, open flames, ignition sources.
10.4 Materials to avoid	Oxidizing agents, reducing agents, acids and alkali
10.5 Possible hazardous reactions	None
10.6 Hazardous decomposition products	Carbon oxides, chloride compounds, fluoride compounds and nitrogen oxides..
11. TOXICOLOGICAL INFORMATION (Toxicity of the formulation is based on constituents)	
11.1 Acute oral toxicity	LD ₅₀ , rats: > 2,000 mg/kg
11.2 Acute dermal toxicity	LD ₅₀ , rats : > 2,000 mg/kg
11.3 Acute inhalation toxicity	LC ₅₀ (rat) > 1 mg/L – technical (4 hours) (maximum attainable concentration)
11.4 Skin irritation	Irritant
11.5 Eye irritation	Irritant
11.6 Sensitization	Sensitizer (guinea pigs)
Active ingredient: Fluroxypyr	
Chronic toxicity :	NOEL (rat) = 80 mg/kg bw/day (2 year) NOEL (mouse) = 320 mg/kg bw/day (1.5 year)
Carcinogenicity:	Not carcinogenic
Mutagenicity:	Not mutagenic
Teratogenicity:	Not teratogenic in animal experiments.
Reproductive toxicity:	NOAEL = 150 mg/kg bw/day (reproductive & maternal toxicity). Not reproductive toxin.
12. ECOLOGICAL INFORMATION	
12.1 Ecotoxicity: data is given for active ingredient fluroxypyr	
Fish (golden orfe, rainbow trout)	
LC ₅₀ (96 hours)	> 0.2 mg/L (fluroxypyr-meptyl) > 100 mg/L (fluroxypyr)
Daphnia magna	
LC ₅₀ (48 hours):	> 0.2 mg/L (fluroxypyr-meptyl) > 100 mg/L (fluroxypyr)
Algae (green)	
EC ₅₀ (96 days):	> 0.5 mg/L (fluroxypyr-meptyl) > 100 mg/L (fluroxypyr)

Birds

Oral LD₅₀ mallard duck & bobwhite quail > 2,000 mg/kg (fluroxypyr-meptyl & fluroxypyr)

Bees

Oral & contact LD₅₀ > 100 µg/bee (fluroxypyr-meptyl)

Contact LD₅₀ > 25 µg/bee (fluroxypyr)

12.2 Persistence/degradability :

Soil

Not persistence (fluroxypyr-meptyl)

moderately persistence (fluroxypyr)

Lab half-life time (t_{1/2}): < 7 days (fluroxypyr-meptyl)

3-55 days (fluroxypyr)

Field half-life time (t_{1/2}): < 3 days (fluroxypyr-meptyl)

34-68 days (fluroxypyr)

Degradation is primarily via: microorganisms (fluroxypyr)
hydrolysis (fluroxypyr-meptyl)

Water

DT₅₀water/sediment = 2 days (fluroxypyr-meptyl)

24 days (fluroxypyr)

Hydrolytic DT₅₀

at pH 4-5: stable (> 30 days) (fluroxypyr-meptyl, fluroxypyr)

at pH 7: stable (> 30 days) (fluroxypyr-meptyl, fluroxypyr)

at pH 9: 3.2 days (fluroxypyr-meptyl)

Ready biodegradability: Both fluroxypyr and fluroxypyr-meptyl are considered not readily biodegradable.

12.4: Bioaccumulative Potential: low (log Pow < 3)

12.4 Mobility in soil

Very low mobility (fluroxypyr-meptyl)

Moderate mobility (fluroxypyr)

Koc = 6,200-43,000 (fluroxypyr-meptyl)

51-81 (fluroxypyr)

stable (> 30 days) (fluroxypyr)

12.5 Results of PBT and vPvB assessment

No relevant

<p>13. DISPOSAL CONSIDERATION</p> <p>Product would be treated, stored, transported, and disposed of according to the local waste regulation authority. Do not flush to surface water or sanitary sewer system</p>
<p>14. TRANSPORT INFORMATION</p> <p>International transport regulations UN number : 1993</p> <p>Land - Road/Railway Proper shipping name : Flammable liquid, N.O.S. (Solvent naphtha) ADR/RID Class : 3, F1, PG III Hazard Identification Number: 30</p> <p>Inland waterways Proper shipping name : Flammable liquid, N.O.S. (Solvent naphtha) ADNR Class : 3, F1, PG III</p> <p>Sea : Proper shipping name: Flammable liquid, N.O.S. (Solvent naphtha) IMDG Class : 3 + marine pollutant Packing group : III Emergency Schedules :(EmS) F-E, S-E</p> <p>Air Proper shipping name : Flammable liquid, N.O.S (Solvent naphtha) UN/ID Number : 1993 IATA-DGR Class : 3, PG III</p> <p>National transport regulations No additional national transport regulations are known to the supplier</p>
<p>15. REGULATORY INFORMATION</p> <p>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</p> <p>Ensure all national/local regulations are observed.</p> <p>15.2 Chemical Safety Assessment.</p> <p>None</p>
<p>16. OTHER INFORMATION:</p> <p>Full text of H and Risk-phrases in Section 3</p> <p>R10: Flammable. R37: Irritating to respiratory system. R38: Irritating to skin. R41: Risk of serious damage to eyes. R50/53: Very toxic to aquatic organisms May cause long-term adverse effects in the aquatic environment. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65: Harmful: may cause lung damage if swallowed.</p>

R66: Repeated exposure may cause skin dryness or cracking.
R67: Vapours may cause drowsiness and dizziness.

H304: May be fatal if swallowed and enters airways

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects

Note Phrase Code P: The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w benzene (EINECS No 200-753-7).

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 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.

Prepared by: Registration Dept.

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