

SAFETY DATA SHEET

DOW AGROSCIENCES LIMITED

Safety Data Sheet according to Reg. (EU) No 453/2010

Product name: SYNERO™ Herbicide

Revision Date: 27.11.2014

Version: 4.1

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DOW AGROSCIENCES LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name: SYNERO™ Herbicide

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

Identified uses: Plant Protection Product

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

DOW AGROSCIENCES LIMITED

CPC2 CAPITAL PARK

FULBOURN

CAMBRIDGE

England

CB21 5XE

UNITED KINGDOM

Customer Information Number:

SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 0031 115 694 982

Local Emergency Contact: 00 31 115 69 4982

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

Aspiration hazard - Category 1 - Aspiration hazard - H304

Serious eye damage - Category 1 - H318

Specific target organ toxicity - single exposure - Category 3 - Narcotic effects. - H336

Chronic aquatic toxicity - Category 2 - H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC:

Irritant - R38

Irritant - R41

R67

Dangerous for the environment - R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008:****Hazard pictograms****Signal word: DANGER****Hazard statements**

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements

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

Precautionary statements

P261 Avoid breathing vapours.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

+ P338 Store in a closed container.

P404 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Supplemental information

Contains 1,2-benzisothiazol-3(2H)-one May produce an allergic reaction.

2.3 Other hazards

no data available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 81406-37-3 EC-No. 279-752-9 Index-No. 607-272-00-5	—	14.2%	fluroxypyr-meptyl (ISO)	Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
CASRN 566191-87-5 EC-No. Not available Index-No. —	—	3.5%	Aminopyralid Potassium	Not classified
CASRN Not Available EC-No. 918-811-1 Index-No. —	01-2119463583-34	> 30.0 - < 40.0 %	Hydrocarbons, C10, aromatics, <1% naphthalene	STOT SE - 3 - H336 Asp. Tox. - 1 - H304 Aquatic Chronic - 2 - H411
CASRN 34590-94-8 EC-No. 252-104-2 Index-No. —	01-2119450011-60	> 20.0 - < 30.0 %	Dipropylene glycol monomethyl ether	Not classified
CASRN 32612-48-9 EC-No. 608-760-0 Index-No. —	—	< 5.0 %	Poly(oxy-1,2- ethanediyl), .alpha.- sulfo-.omega.- (dodecyloxy)-, ammonium salt	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319
CASRN 107-41-5 EC-No. 203-489-0 Index-No. 603-053-00-3	01-2119539582-35	< 5.0 %	2-methylpentane- 2,4-diol	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319

CASRN 91-20-3 EC-No. 202-049-5 Index-No. 601-052-00-2	—	< 1.0 %	Naphthalene	Acute Tox. - 4 - H302 Carc. - 2 - H351 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
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For the full text of the H-Statements mentioned in this Section, see Section 16.

CASRN / EC-No. / Index-No.	Concentration	Component	Classification: 67/548/EEC
CASRN 81406-37-3 EC-No. 279-752-9 Index-No. 607-272-00-5	14.2%	fluroxypyr-meptyl (ISO)	N - R50 - R53
CASRN 566191-87-5 EC-No. Not available Index-No. —	3.5%	Aminopyralid Potassium	Not classified
CASRN Not Available EC-No. 918-811-1 Index-No. —	> 30.0 - < 40.0 %	Hydrocarbons, C10, aromatics, <1% naphthalene	Xn - R65 N - R51/53 R66 R67
CASRN 34590-94-8 EC-No. 252-104-2 Index-No. —	> 20.0 - < 30.0 %	Dipropylene glycol monomethyl ether	Not classified
CASRN 32612-48-9 EC-No. 608-760-0 Index-No. —	< 5.0 %	Poly(oxy-1,2- ethanediyl), .alpha.- sulfo-.omega.- (dodecyloxy)-, ammonium salt	Xi - R36/38
CASRN 107-41-5 EC-No. 203-489-0 Index-No. 603-053-00-3	< 5.0 %	2-methylpentane-2,4- diol	Xi - R36/38
CASRN 91-20-3	< 1.0 %	Naphthalene	Carc.Cat.3 - R40 Xn - R22

EC-No. 202-049-5 Index-No. 601-052-00-2			N - R50 - R53
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For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Suitable emergency safety shower facility should be available in work area.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting liver and kidney disease.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water fog, applied gently may be used as a blanket for fire extinguishment.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.

Unusual Fire and Explosion Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

5.3 Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Evacuate area. Refer to section 7, Handling, for additional precautionary measures. Only trained and properly protected personnel must be involved in clean-up operations. Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance.

6.4 Reference to other sections: References to other sections, if applicable, have been provided in the previous sub-sections.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Keep out of reach of children. Do not get in eyes. Wash thoroughly after handling. Do not swallow. Avoid breathing vapor. Use with adequate ventilation. Keep container closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

7.2 Conditions for safe storage, including any incompatibilities: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

7.3 Specific end use(s): Refer to product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
fluroxypyr-meptyl (ISO)	Dow IHG	TWA	10 mg/m ³
Dipropylene glycol monomethyl ether	ACGIH	TWA	100 ppm
	ACGIH	STEL	150 ppm
	ACGIH	TWA	Absorbed via skin
	ACGIH	STEL	Absorbed via skin
	2000/39/EC	TWA	308 mg/m ³ 50 ppm
	2000/39/EC	TWA	Absorbed via skin
	GB EH40	TWA	Absorbed via skin
	GB EH40	TWA	308 mg/m ³ 50 ppm
2-methylpentane-2,4-diol	ACGIH	C	25 ppm
	GB EH40	TWA	123 mg/m ³ 25 ppm
	GB EH40	STEL	123 mg/m ³ 25 ppm
Naphthalene	ACGIH	TWA	10 ppm
	ACGIH	TWA	Absorbed via skin
	91/322/EEC	TWA	50 mg/m ³ 10 ppm

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

8.2 Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred

glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Color	Brown
Odor	Mild
Odor Threshold	No test data available
pH	5.8 1% pH Electrode (1% aqueous suspension)
Melting point/range	Not applicable
Freezing point	No test data available
Boiling point (760 mmHg)	No test data available
Flash point	closed cup > 100 °C CIPAC MT 12.3
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not Applicable
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No test data available
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.012 at 20 °C / 4 °C EC Method A3
Water solubility	emulsifiable

Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	> 400 °C <i>EC Method A15</i>
Decomposition temperature	No test data available
Dynamic Viscosity	No test data available
Kinematic Viscosity	13.1 mm ² /s
Explosive properties	Not explosive
Oxidizing properties	No

9.2 Other information

Liquid Density	1.012 g/cm ³ at 20 °C <i>Digital density meter</i>
Molecular weight	no data available
Surface tension	31.6 mN/m at 25 °C <i>EC Method A5</i>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity: No dangerous reaction known under conditions of normal use.

10.2 Chemical stability: Thermally stable at typical use temperatures.

10.3 Possibility of hazardous reactions: Polymerization will not occur.

10.4 Conditions to avoid: Some components of this product can decompose at elevated temperatures.

10.5 Incompatible materials: Avoid contact with: Strong oxidizers.

10.6 Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:

LD50, rat, female, > 5,000 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:

LD50, rat, male and female, > 5,000 mg/kg

Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist. May cause dizziness and drowsiness. Based on the available data, respiratory irritation was not observed.

As product: The LC50 has not been determined. For similar material(s):

LC50, rat, 4 Hour, Aerosol, > 5.3 mg/l

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

May cause drying and flaking of the skin.

Serious eye damage/eye irritation

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause drowsiness or dizziness.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the active ingredient(s):

Fluroxypyr-meptyl.

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

For similar active ingredient(s).

Aminopyralid.

In animals, effects have been reported on the following organs:

Gastrointestinal tract.

For the minor component(s):

In animals, effects have been reported on the following organs:

Kidney.

Respiratory tract.

Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Carcinogenicity

Contains naphthalene which has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

For similar active ingredient(s). Did not cause cancer in laboratory animals.

Teratogenicity

For the active ingredient(s): Fluroxypyr-meptyl. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

For similar active ingredient(s). Aminopyralid. Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive toxicity

For the active ingredient(s): In animal studies, did not interfere with reproduction.

For the major component(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

12.1 Toxicity**Acute toxicity to fish**

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, 6.42 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, 28.7 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, diatom *Navicula* sp., Growth inhibition, 72 Hour, 7.7 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

oral LD50, *Colinus virginianus* (Bobwhite quail), > 2,250 mg/kg

oral LD50, *Apis mellifera* (bees), > 100micrograms/bee

contact LD50, *Apis mellifera* (bees), > 200micrograms/bee

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, 710 mg/kg

12.2 Persistence and degradability**fluroxypyr-meptyl (ISO)****Biodegradability:** Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

Biodegradation: 32 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301D or Equivalent**Theoretical Oxygen Demand:** 2.2 mg/mg**Stability in Water (1/2-life)**

, half-life, 454 d

Aminopyralid Potassium**Biodegradability:** For similar active ingredient(s). Aminopyralid. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 0 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301F or Equivalent**Hydrocarbons, C10, aromatics, <1% naphthalene****Biodegradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).**Dipropylene glycol monomethyl ether****Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Pass

Biodegradation: 75 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301F or Equivalent**Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-(dodecyloxy)-, ammonium salt****Biodegradability:** No relevant information found.**2-methylpentane-2,4-diol****Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 81 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301F or Equivalent

Naphthalene

Biodegradability: Material is expected to be readily biodegradable.

12.3 Bioaccumulative potential**fluroxypyr-meptyl (ISO)**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 5.04 Measured

Bioconcentration factor (BCF): 26 Oncorhynchus mykiss (rainbow trout) Measured

Aminopyralid Potassium

Bioaccumulation: For similar active ingredient(s). Aminopyralid. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Hydrocarbons, C10, aromatics, <1% naphthalene

Bioaccumulation: No data available for this product. For similar material(s):

Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Dipropylene glycol monomethyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 1.01 Measured

Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-omega.-(dodecyloxy)-, ammonium salt

Bioaccumulation: No relevant information found.

2-methylpentane-2,4-diol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). No test data available

Partition coefficient: n-octanol/water(log Pow): 0.58 Estimated.

Bioconcentration factor (BCF): 3 Calculated.

Naphthalene

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 3.3 Measured

Bioconcentration factor (BCF): 40 - 300 Fish. 28 d Measured

12.4 Mobility in soil**fluroxypyr-meptyl (ISO)**

Expected to be relatively immobile in soil (Koc > 5000).

Partition coefficient(Koc): 6200 - 43000

Aminopyralid Potassium

For similar active ingredient(s).

Aminopyralid.

Potential for mobility in soil is very high (Koc between 0 and 50).

Hydrocarbons, C10, aromatics, <1% naphthalene

No relevant data found.

Dipropylene glycol monomethyl ether

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): 0.28 Estimated.

Poly(oxy-1,2-ethanediyl), .alpha.-sulfo.-omega.-(dodecyloxy)-, ammonium salt

No data available.

2-methylpentane-2,4-diol

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): 1 Estimated.

Naphthalene

Potential for mobility in soil is medium (Koc between 150 and 500).

Partition coefficient(Koc): 240 - 1300 Measured

12.5 Results of PBT and vPvB assessment

fluroxypyr-meptyl (ISO)

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Aminopyralid Potassium

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Hydrocarbons, C10, aromatics, <1% naphthalene

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Dipropylene glycol monomethyl ether

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

2-methylpentane-2,4-diol

This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Naphthalene

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6 Other adverse effects

fluroxypyr-meptyl (ISO)

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Aminopyralid Potassium

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Hydrocarbons, C10, aromatics, <1% naphthalene

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Dipropylene glycol monomethyl ether

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

2-methylpentane-2,4-diol

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Naphthalene

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14. TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1 UN number	UN 3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Aromatic hydrocarbon)
14.3 Class	9
14.4 Packing group	III
14.5 Environmental hazards	Aromatic hydrocarbon
14.6 Special precautions for user	Hazard identification No: 90

Classification for SEA transport (IMO-IMDG):

14.1 UN number	UN 3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Aromatic hydrocarbon)
14.3 Class	9
14.4 Packing group	III
14.5 Environmental hazards	Aromatic hydrocarbon

- 14.6 **Special precautions for user** EmS: F-A, S-F
- 14.7 **Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code** Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

- 14.1 **UN number** UN 3082
- 14.2 **Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.(Aromatic hydrocarbon)
- 14.3 **Class** 9
- 14.4 **Packing group** III
- 14.5 **Environmental hazards** Not applicable
- 14.6 **Special precautions for user** No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**REACH Regulation (EC) No 1907/2006**

This product contains only components that have been either pre-registered, registered, are exempt from registration or are regarded as registered according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Other regulations

Registration Number: MAPP 14708

15.2 Chemical Safety Assessment

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 16. OTHER INFORMATION

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

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

R22	Harmful if swallowed.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R41	Risk of serious damage to eyes.
R50	Very toxic to aquatic organisms.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Asp. Tox. - 1 - H304 - On basis of test data.
 Eye Dam. - 1 - H318 - On basis of test data.
 STOT SE - 3 - H336 - Calculation method
 Aquatic Chronic - 2 - H411 - Calculation method

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

2000/39/EC	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
91/322/EEC	Europe. Commission Directive 91/322/EEC on establishing indicative limit values
Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	Ceiling limit
Dow IHG	Dow Industrial Hygiene Guideline
GB EH40	UK. EH40 WEL - Workplace Exposure Limits
STEL	Short-term exposure limit

TWA	8-hour, time-weighted average
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Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LIMITED urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.