SAFETY DATA SHEET

DOW AGROSCIENCES LIMITED

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

Product name: Starane Hi Load HL

Revision Date: 20.08.2014
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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: Starane Hi Load HL

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
LATCHMORE COURT
BRAND STREET
HITCHIN
England
SG5 1NH
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 (EU) 1272/2008 :
Skin irritation - Category 2 - H319
Skin sensitisation - Category 1 - H317
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:
R43

Dangerous for the environment - - R53
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 [CLP/GHS]:

Hazard pictograms

Signal word: WARNING

Hazard statements

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
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

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 a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

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	–	45.5%	fluroxypyr-meptyl (ISO)	Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
CASRN 1118-92-9 **EC-No.** 214-272-5 **Index-No.** –	–	> 30.0 - < 40.0 %	N,N-Dimethyloctanamide	Skin Irrit. - 2 - H315 Eye Dam. - 1 - H318
CASRN 68953-96-8 **EC-No.** 273-234-6 **Index-No.** –	–	< 5.0 %	Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	Skin Irrit. - 2 - H315 Eye Dam. - 1 - H318
CASRN not available **EC-No.** 922-153-0 **Index-No.** –	01-2119451097-39	< 5.0 %	Hydrocarbons, C10-C13, aromatics, <1% naphthalene	Asp. Tox. - 1 - H304 Aquatic Chronic - 2 - H411
CASRN 99734-09-5 **EC-No.** – **Index-No.** –	–	< 5.0 %	Polyethylene glycol mono(tristyrylphenyl)ether	Aquatic Chronic - 3 - H412
CASRN 872-50-4 **EC-No.** 212-828-1 **Index-No.** 606-021-00-7	01-2119472430-46	< 1.0 %	1-methyl-2-pyrrolidone	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319 Repr. - 1B - H360 STOT SE - 3 - H335

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	45.5%	fluroxypyr-meptyl (ISO)	N - R50 - R53

Index-No. 607-272-00-5			
CASRN 1118-92-9 **EC-No.** 214-272-5 **Index-No.** –	> 30.0 - < 40.0 %	N,N-Dimethyloctanamide	Xi - R38 - R41
CASRN 68953-96-8 **EC-No.** 273-234-6 **Index-No.** –	< 5.0 %	Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	Xi - R38 - R41
CASRN not available **EC-No.** 922-153-0 **Index-No.** –	< 5.0 %	Hydrocarbons, C10-C13, aromatics, <1% naphthalene	Xn - R65 R66 N - R51/53
CASRN 99734-09-5 **EC-No.** – **Index-No.** –	< 5.0 %	Polyethylene glycol mono(tristyrylphenyl)ether	R52/53
CASRN 872-50-4 **EC-No.** 212-828-1 **Index-No.** 606-021-00-7	< 1.0 %	1-methyl-2-pyrrolidone	Repr.Cat.2 - R61 Xi - R36/37/38

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. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be available in work area.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: No emergency medical treatment necessary.

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: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment. Skin contact may aggravate preexisting dermatitis.

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.

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. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen fluoride. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. 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. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. 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: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. 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. See Section 13, Disposal Considerations, for additional information.

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 swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

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/m3
1-methyl-2-pyrrolidone	US WEEL	TWA	10 ppm
	US WEEL	TWA	Absorbed via skin
	2009/161/EU	TWA	40 mg/m3 10 ppm
	2009/161/EU	STEL	80 mg/m3 20 ppm
	GB EH40	TWA	Absorbed via skin
	GB EH40	STEL	Absorbed via skin
	GB EH40	TWA	40 mg/m3 10 ppm
	GB EH40	STEL	80 mg/m3 20 ppm

2009/161/EU	TWA	Absorbed via skin
2009/161/EU	STEL	Absorbed via skin

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: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

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	Yellow
Odor	Spicy
Odor Threshold	No test data available
pH	4.58 1% *ASTM E70*
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 *ASTM D3278*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
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)	1.05
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	358 °C *EC Method A15*
Decomposition temperature	No test data available
Dynamic Viscosity	28.2 mPa.s at 40 °C *OECD 114*
Kinematic Viscosity	No test data available
Explosive properties	No *EEC A14*
Oxidizing properties	No significant increase (>5C) in temperature.

9.2 Other information

Liquid Density	1.05 g/cm3 at 20 °C *OECD 109*
Molecular weight	No test data available
Surface tension	32 mN/m at25 °C *EC Method A5*

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 data available

10.2 Chemical stability: Unstable at elevated temperatures.

10.3 Possibility of hazardous reactions: Polymerization will not occur.

10.4 Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

10.5 Incompatible materials: None known.

10.6 Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Hydrogen chloride. Hydrogen fluoride. Nitrogen oxides. 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 No deaths occurred at this concentration.

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 No deaths occurred at this concentration.

Acute inhalation toxicity
No adverse effects are anticipated from single exposure to mist. Based on the available data, respiratory irritation was not observed.

LC50, rat, male and female, 4 Hour, dust/mist, > 5.50 mg/l

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.
May cause drying and flaking of the skin.
Prolonged contact is essentially nonirritating to skin.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight corneal injury.

Sensitization
As product:
Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For the active ingredient(s):
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

For the major component(s):
For similar material(s):
In animals, effects have been reported on the following organs:
Kidney.
For the minor component(s):
In animals, effects have been reported on the following organs:
Lung.
Gastrointestinal tract.
Thyroid.
Urinary tract.
Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

Carcinogenicity
For similar active ingredient(s). Fluroxypyr-meptyl. Did not cause cancer in laboratory animals.

Teratogenicity
For the active ingredient(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals. For the minor component(s): N-methyl pyrrolidone has caused toxic effects to the fetus in laboratory animals at high dose levels with either mild or undetectable maternal toxicity.

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

Mutagenicity
As product: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

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), flow-through test, 96 Hour, 14.3 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 20 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, 9.6 mg/l, OECD Test Guideline 201

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

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, survival, > 1,000 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

N,N-Dimethyloctanamide
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: > 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts
Biodegradability: No relevant data found.

Hydrocarbons, C10-C13, aromatics, <1% naphthalene
Biodegradability: For similar material(s): Biodegradation may occur under aerobic conditions (in the presence of oxygen). 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.

Polyethylene glycol mono(tristyrylphenyl)ether
Biodegradability: No relevant data found.

1-methyl-2-pyrrolidone

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 91 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

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

N,N-Dimethyloctanamide

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.59 at 23 °C

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts

Bioaccumulation: No relevant data found.

Hydrocarbons, C10-C13, 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).

Polyethylene glycol mono(tristyrylphenyl)ether

Bioaccumulation: No relevant data found.

1-methyl-2-pyrrolidone

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -0.38 Measured

12.4 Mobility in soil

fluroxypyr-meptyl (ISO)

Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient(Koc): 6200 - 43000

N,N-Dimethyloctanamide

No relevant data found.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts

No relevant data found.

Hydrocarbons, C10-C13, aromatics, <1% naphthalene

No relevant data found.

Polyethylene glycol mono(tristyrylphenyl)ether

No relevant data found.

1-methyl-2-pyrrolidone

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): 21 Estimated.

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).

N,N-Dimethyloctanamide

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).

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts

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

Hydrocarbons, C10-C13, aromatics, <1% naphthalene

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).

Polyethylene glycol mono(tristyrylphenyl)ether

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).

1-methyl-2-pyrrolidone

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).

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.

N,N-Dimethyloctanamide

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts

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

Hydrocarbons, C10-C13, aromatics, <1% naphthalene

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

Polyethylene glycol mono(tristyrylphenyl)ether

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

1-methyl-2-pyrrolidone

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.(Fluroxypyr)
14.3	**Class**	9
14.4	**Packing group**	III
14.5	**Environmental hazards**	Fluroxypyr
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.(Fluroxypyr)
14.3	**Class**	9
14.4	**Packing group**	III
14.5	**Environmental hazards**	Fluroxypyr
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.(Fluroxypyr)

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

Other regulations:
Registration Number: 16557

REACh Regulation (EC) No 1907/2006
This product contains a substance listed listed in the Candidate list for Authorization established in accordance with article 59(1):
Restrictions on the manufacture, placing on the market and use:
The following substance/s contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product have to comply with the restrictions placed upon it by the aforementioned provision.

CAS-No.: 872-50-4	Name: 1-methyl-2-pyrrolidone

Restriction status: listed in REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction
Authorisation status under REACH:
The following substance/s contained in this product might be or is/are subject to authorization in accordance with REACH:

CAS-No.: 872-50-4	Name: 1-methyl-2-pyrrolidone

Authorisation status: listed in the Candidate List of Substances of Very High Concern for Authorisation
Authorisation number: Not available
Sunset date: Not available
Exempted (Categories of) Uses: Not available

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.

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.

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.
H360	May damage fertility or the unborn child.
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.
H412	Harmful to aquatic life with long lasting effects.

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

	Toxic to aquatic organisms.
R36/37/38	Irritating to eyes, respiratory system and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]
Skin Irrit. - 2 - H319 - On basis of test data.
Skin Sens. - 1 - H317 - On basis of test data.
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

2009/161/EU	Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC

Absorbed via skin	Absorbed via skin
Dow IHG	Dow Industrial Hygiene Guideline
GB EH40	UK. EH40 WEL - Workplace Exposure Limits
STEL	Short-term exposure limit (15-minute reference period)
TWA	Long-term exposure limit (8-hour TWA reference period)
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

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.