

Agriculture Division of DowDuPont

Issue Date: 09.09.2016
Print Date: 09.09.2016

Product name: VERDICT™ 520 Herbicide

DOW AGROSCIENCES AUSTRALIA 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: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product name: VERDICT™ 520 Herbicide

Recommended use of the chemical and restrictions on use

Identified uses: End use herbicide product

COMPANY IDENTIFICATION

DOW AGROSCIENCES AUSTRALIA LIMITED
LEVEL 9, 67 ALBERT AVENUE
CHATSWOOD NSW 2067
AUSTRALIA

Customer Information Number:

1800-700-096

auscustomerservice@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: +61 2 9474 7350

Local Emergency Contact: 1800-370-754

For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126

Transport Emergency Only Dial 000

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification

Acute toxicity - Category 4 - Oral

Acute aquatic toxicity - Category 1

Chronic aquatic toxicity - Category 1

GHS label elements

Hazard pictograms



Signal word: **WARNING!**

Hazard statements

Harmful if swallowed.

Very toxic to aquatic life with long lasting effects.

Precautionary statements**Prevention**

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

Response

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Collect spillage.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No data available

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

This product is a mixture.

Component	CASRN	Concentration
Haloxyfop-R methyl ester	72619-32-0	46.91 %
Diethylene glycol monomethyl ether	111-90-0	40.0 – 50.0 %
Oxirane, polymer with methyloxirane, mono(nonylphenyl)ether	37251-69-7	< 10.0 %
Haloxyfop Methyl (S-) isomer: 2-(4-((3-chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic acid	116661-27-9	< 1.0 %
2-(4-((3-Chloro-5-(chloro difluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester		< 1.0 %
2-(4-((6-Chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester		< 1.0 %
Balance	Not available	≤1.89 %

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice: 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.

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.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

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.

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.

SECTION 5: FIREFIGHTING MEASURES

Hazchem Code: ●2X

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: No data available

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: 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.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition 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

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep personnel out of low areas. 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.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

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.

SECTION 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapour or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Containers, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: 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.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Diethylene glycol monoethyl ether	US WEEL	TWA	25 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.

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 safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). 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 3 or higher (breakthrough time greater than 60 minutes according to AS/NZS 2161.10) 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: Wear clean, body-covering clothing.

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.

The following should be effective types of air-purifying respirators: Organic vapour cartridge with a particulate pre-filter.

Other Information: Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Eye and face protection – Guidelines.

AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.

AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.

AS/NZS 2161: Occupational protective gloves.

AS/NZS 2210: Occupational protective footwear.

AS/NZS 4501: Occupational protective clothing Set

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid.
Colour	Brown
Odour	Solvent
Odour Threshold	No data available
pH	5.4 <i>CIPAC MT 75.2</i>
Melting point/range	Not applicable to liquids
Freezing point	No test data available
Boiling point (760 mmHg)	202 °C <i>Literature</i> (solvent)
Flash point	closed cup 97.5 °C
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	No data available
Lower explosion limit	1.2 % vol <i>Literature</i> (solvent)
Upper explosion limit	8.5 % vol <i>Literature</i> (solvent)
Vapor Pressure	14 mmHg at 20 °C <i>Literature</i>
Relative Vapor Density (air = 1)	1.148
Relative Density (water = 1)	116 at 20 °C <i>Literature</i>
Water solubility	Emulsifiable
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	34.4 mPa.s at 20 °C 14.1 mPa.s at 40 °C
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No significant increase (>5C) in temperature.
Liquid Density	1.151 g/ml <i>Calculated</i>
Molecular weight	No data available

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

SECTION 10: STABILITY AND REACTIVITY

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

Chemical stability: Unstable at elevated temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

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

Incompatible materials: Avoid contact with: Strong oxidizers.

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: Carbon monoxide. Carbon dioxide. Hydrogen chloride. Hydrogen fluoride. Toxic gases are released during decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Moderate toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death.

As product: LD50, Rat, female, 500 mg/kg

Acute dermal toxicity

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

As product: LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

As product: LC50, Rat, male and female, 4 Hour, dust/mist, > 5.41 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Brief contact is essentially non-irritating to skin.

Serious eye damage/eye irritation

May cause slight eye irritation. Corneal injury is unlikely.

Sensitization

For product: Did not demonstrate 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 similar active ingredient(s).

In animals, effects have been reported on the following organs: Kidney. Blood. Testes. Thyroid. Liver. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

For the solvent(s): Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity

For similar active ingredient(s). Haloxyfop did not cause cancer in laboratory rats; however, there was a slightly increased incidence of malignant liver tumors in female mice in a lifetime dietary feeding study.

For the solvent(s): Did not cause cancer in laboratory animals.

Teratogenicity

For similar active ingredient(s). Has been toxic to the foetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

For the solvent(s): Did not cause birth defects or any other foetal effects in laboratory animals.

Reproductive toxicity

For the solvent(s): Studies in laboratory animals indicate that diethylene glycol monoethyl ether (DEGEE) is not a reproductive toxicant even when given in large amounts (a few percent in the drinking water). However, at the highest doses, it caused some toxic effects in offspring of treated animals: increased liver weight, decreased brain weight, reduced sperm motility.

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

Mutagenicity

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 appears in this section when such data is available.

Ecotoxicity

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, *Oncorhynchus mykiss* (rainbow trout), flow-through test, 96 Hour, 0.92 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, *Daphnia magna* (Water flea), static test, 48 Hour, 38 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, *Pseudokirchneriella subcapitata* (green algae), static test, Growth rate inhibition, > 31 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to Above Ground Organisms

Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

Oral LD50, *Colinus virginianus* (Bobwhite quail), mortality, 1517 mg/kg bodyweight.

Oral LD50, Apis mellifera (bees), 48 Hour, mortality, > 210.0 micrograms/bee
Contact LD50, Apis mellifera (bees), 48 Hour, mortality, > 200.0 micrograms/bee

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, mortality, 671.05 mg/kg

Persistence and degradability**Haloxypop-R methyl ester**

Biodegradability: 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: 8 - 11 %

Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

Stability in Water (1/2-life): Hydrolysis, half-life, < 24 Hour, pH 9

Diethylene glycol monoethyl 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: 90 %

Exposure time: 28 d

Method: OECD Test Guideline 301E or Equivalent

10-day Window: Not applicable

Biodegradation: > 90 %

Exposure time: 5.5 d

Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.91 mg/mg

Chemical Oxygen Demand: 1.84 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	5 - 17 %
10 d	31 - 71 %
20 d	49 - 87 %

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 4.093 Hour

Method: Estimated.

Oxirane, polymer with methyloxirane, mono(nonylphenyl)ether

Biodegradability: No relevant information found.

Haloxyfop Methyl (S-) isomer: 2-(4-((3-chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic acid

Biodegradability: For similar material(s): 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.

2-(4-((3-Chloro-5-(chloro difluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

Biodegradability: For similar material(s): Biodegradation under aerobic static laboratory conditions is low (BOD20 or BOD28/ThOD between 2.5 and 10%).

2-(4-((6-Chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

Biodegradability: For similar material(s): Biodegradation under aerobic static laboratory conditions is low (BOD20 or BOD28/ThOD between 2.5 and 10%).

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential**Haloxyfop-R methyl ester**

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

Partition coefficient: n-octanol/water (log Pow): 0.63 - 4.6 Measured

Bioconcentration factor (BCF): 262 Estimated.

Diethylene glycol monoethyl ether

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

Partition coefficient: n-octanol/water (log Pow): -0.54 Measured

Oxirane, polymer with methyloxirane, mono(nonylphenyl)ether

Bioaccumulation: No relevant data found.

Haloxyfop Methyl (S-) isomer: 2-(4-((3-chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic acid

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

2-(4-((3-Chloro-5-(chloro difluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

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

Partition coefficient: n-octanol/water (log Pow): 3.98 Estimated.

Bioconcentration factor (BCF): < 1 Fish Estimated.

2-(4-((6-Chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

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

Partition coefficient: n-octanol/water (log Pow): 4.51 Estimated.

Bioconcentration factor (BCF): 438 Fish Estimated.

Balance

Bioaccumulation: No relevant data found.

Mobility in Soil**Haloxifop-R methyl ester**

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

Partition coefficient (Koc): 17800 Estimated.

Diethylene glycol monoethyl ether

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

Partition coefficient (Koc): 20 Estimated.

Oxirane, polymer with methyloxirane, mono(nonylphenyl)ether

No relevant data found.

Haloxifop Methyl (S-) isomer: 2-(4-((3-chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic acid

For similar material(s): Potential for mobility in soil is medium (Koc between 150 and 500).

2-(4-((3-Chloro-5-(chloro difluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

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

Partition coefficient (Koc): 5454 Estimated.

2-(4-((6-Chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

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

Partition coefficient (Koc): 5454 Estimated.

Balance

No relevant data found.

Results of PBT and vPvB assessment**Haloxifop-R methyl ester**

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).

Diethylene glycol monoethyl 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).

Oxirane, polymer with methyloxirane, mono(nonylphenyl)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).

Haloxifop Methyl (S-) isomer: 2-(4-((3-chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic acid

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

2-(4-((3-Chloro-5-(chloro difluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

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

2-(4-((6-Chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

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

Balance

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

Other adverse effects**Haloxypop-R methyl ester**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Diethylene glycol monoethyl ether

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Oxirane, polymer with methyloxirane, mono(nonylphenyl)ether

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Haloxypop Methyl (S-) isomer: 2-(4-((3-chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic acid

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

2-(4-((3-Chloro-5-(chloro difluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

2-(4-((6-Chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoic Acid, Methyl Ester

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal 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.

This product when disposed of in its unused and uncontaminated state should be treated as a hazardous waste.

SECTION 14: TRANSPORT INFORMATION

ADG

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Haloxyfop methyl ester)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Haloxyfop methyl ester

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Haloxyfop methyl ester)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Haloxyfop methyl ester
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):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Haloxyfop methyl ester)
UN number	UN 3082
Class	9
Packing group	III

Hazchem Code: ●2X**Further information:**

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Code for the Transport of Dangerous Goods (ADG). This applies when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs per ADG Special Provision AU01.

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

Poison Schedule: S6**APVMA Approval Number:** 50643

Australia Inventory of Chemical Substances (AICS)

The product is used in a biocide/pesticide application and is subject to the applicable regulation. It contains a component exempt from inventory listing requirements. Because an intentional component of the product is not on the inventory, the product may only be used in the exempt application.

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision

Identification Number: 101203289 / A143 / Issue Date: 09.09.2016 / Version: 8.1

DAS Code: GF-142

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

Legend

TWA	8-hr Time Weighted Average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

DOW AGROSCIENCES AUSTRALIA 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.