SAFETY DATA SHEET
DOW AGROSCIENCES* (NZ) LIMITED

Product name: Starane™ Xtra Herbicide **Issue Date**: 31.10.2019

Dow AgroSciences* (NZ) Ltd encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Starane™ Xtra Herbicide
Identified uses: End use herbicide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES* (NZ) LIMITED
89 PARITUTU ROAD
4342 NEW PLYMOUTH
NEW ZEALAND

Customer Information Number: 0800-803-939
NZCustomerservice@corteva.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: +64 6 751 2407
Local Emergency Contact: 0800 844 455

For medical advice, contact the New Zealand Poisons Information Centre:
0800 POISON (0800 764 766)
Transport Emergency Only Dial: 111

This SDS may not provide exhaustive guidance for all the HSNO controls assigned to this substance. The NZ EPA website www.epa.govt.nz should be consulted for a full list of triggered controls and cited regulations

2. HAZARDS IDENTIFICATION

Hazard classification
NEW ZEALAND HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous according to criteria in the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001. Refer to section 15 for HSNO Approval number.

HSNO classifications: 6.5B, 9.1B, 9.2A

Signal word: **WARNING!**

Hazard statements
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.
Very toxic to the soil environment.

Prevention
Avoid breathing mist/ vapours/ spray.
Contaminated clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing and eye/ face protection.

Response
IF on skin: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Specific treatment – refer to Section 4: First Aid instructions
Wash contaminated clothing before re-use.
Collect spillage.

Storage
Store locked up.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CASRN	Concentration
Fluoroxypyr-meptyl (ISO)	81406-37-3	45.52 %
Solvent naphtha (petroleum), heavy arom.	64742-94-5	0.7 – 2.6 %
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	< 3.0 %
N-methyl-2-pyrrolidone	872-50-4	< 0.5 %
Balance	Not available	48.4 – 50.3 %

4. FIRST AID MEASURES

Consult the National Poisons Information Centre (0800 POISON (0800 764 766)) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

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 re-use. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be available in manufacturing 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.

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. Skin contact may aggravate pre-existing dermatitis.

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: Do not use direct water stream. May spread fire.

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.

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 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.

6. ACCIDENTAL RELEASE MEASURES

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.

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 Corteva Agriscience for clean-up assistance. See Section 13: Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Keep container closed. Avoid prolonged or repeated contact with skin. Avoid contact with eyes, skin, and clothing. Do not swallow. Avoid breathing vapour or mist. Wash thoroughly after handling. Use with adequate ventilation. 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.

This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100 L or more, either alone or in aggregate with other hazardous substances. See Hazardous Substances Emergency Management and Identification Regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist:

Component	Regulation	Type of listing	Value/Notation
Fluoroxypyr-meptyl (ISO)	Dow IHG	TWA	10 mg/m^3
Solvent naphtha (petroleum), heavy arom.	Dow IHG Dow IHG ACGIH	TWA STEL TWA	100 mg/m^3 300 mg/m^3 200 mg/ m^3, total hydrocarbon vapour
N-methyl-2- pyrrolidone	US WEEL NZ OEL NZ OEL	TWA WES-STEL WES-TWA	10 ppm Skin 309 mg/m^3 75 ppm Skin 103 mg/m^3 25 ppm 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.

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.
Skin protection
Hand protection: 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. 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 AS/NZS 2161.10) 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 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: 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.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance - Physical state	Liquid.
- Colour	Yellow to brown
Odour	Spicy.
Odour 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	> 100^0c *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
Vapour Pressure	135 x 10^{-3} mPa at 20^0c for Fluroxypyr-meptyl
Relative Vapour Density (air = 1)	No test data available
Relative Density (water = 1)	1.05 g/mL
Water solubility	Emulsifiable.
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	358^0c *EC Method A15*
Decomposition temperature	No test data available
Dynamic Viscosity	28.2 mPa.s at 40^0c *OECD 114*
Kinematic Viscosity	No test data available
Explosive properties	No *EEC A14*
Oxidizing properties	No data available
Liquid density	1.05 g/cm^3 at 20 °c *OECD 109*
Molecular weight	Fluroxypyr 1-methylheptyl ester = 367.24
Surface tension	32 mN/m at 25^0c *EC Method A5*

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

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: None known.

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.

11. TOXICOLOGICAL INFORMATION

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 non-irritating 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: Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
For the major components: Based on available data, repeated exposures are not anticipated to cause significant adverse effects
For the minor components: In animals, effects have been reported on the following organs: Kidney.

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

Teratogenicity
For the active ingredient: Has been toxic to the foetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

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.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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).

Acute toxicity to fish
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
ErC50, *Myriophyllum spicaturn*, static test, 14 d, 0.178 mg/l. OECD Test Guideline 201
NOEC, *Myriophyllum spicaturn*, static test, 14 d, 0.0152 mg/l OECD Test Guideline 201

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD50 > 2,000 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

Persistence and degradability

Fluoroxypyr-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): Hydrolysis, half-life, 454 d

Solvent naphtha (petroleum), heavy arom.

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.
Biodegradation: 28d: 58.6%. OECD Test Guideline 301F.

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

Biodegradability: 10-day Window: Fail
Biodegradation: 28d: 2.9 %. OECD Test Guideline 301E or Equivalent

N-methyl-2-pyrrolidone

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window	Biodegradation	Exposure time	Method
Pass	91 %	28 d	OECD Test Guideline 301B or Equivalent
Not applicable	73 %	28 d	OECD Test Guideline 301C or Equivalent
Not applicable	> 90 %	8 d	OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 2.58 mg/mg
Photodegradation: Atmospheric Half-life (indirect photolysis). Sensitizer: OH radicals: 0.486 d *Estimated*.

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential

Fluoroxypyr-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*

Solvent naphtha (petroleum), heavy arom.

Bioaccumulation: For similar material(s): Bioconcentration potential is high (BCF > 3,000 or Log Pow between 5 and 7).

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

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3,000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water (log Pow): 4.6. OECD Test Guideline 107 or Equivalent

N-methyl-2-pyrrolidone

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

Partition coefficient: n-octanol/water (log Pow): -0.38 *Measured*

Balance

Bioaccumulation: No relevant data found.

Mobility in Soil

Fluoroxypyr-meptyl (ISO)

Expected to be relatively immobile in soil (Koc > 5,000).

Partition coefficient (Koc): 6,200 – 43,000

Solvent naphtha (petroleum), heavy arom.

No data available.

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

No relevant data found.

N-methyl-2-pyrrolidone

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

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.

Partition coefficient (Koc): 21 *Estimated*.

Balance

No relevant data found.

Results of PBT and vPvB assessment

Fluoroxypyr-meptyl (ISO)

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

Solvent naphtha (petroleum), heavy arom.

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

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

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

N-methyl-2-pyrrolidone

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

Balance

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

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.

Waste handling, treatment and disposal practices must be in compliance with the New Zealand Hazardous Substances (Disposal) Regulations 2001. Additional local requirements may be applicable in accordance with planning controls under the Resource Management Act. Regulations concerning waste management may vary in different locations.

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

14. TRANSPORT INFORMATION

PUBLIC PASSENGER VEHICLE TRANSPORT: To be transported ONLY in the sealed original container. Maximum volume permitted to be transported in a passenger service vehicle: 1 Litre.

Classification for ROAD and Rail transport:

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Fluroxypyr)
UN number	UN 3082
Class	9
Packing group	III
Environmental hazards	Fluroxypyr

Classification for SEA transport (IMO-IMDG):

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

Hazchem code: ●2X

Matters needing attention for transportation
Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code and IATA special provision A197. If the product meets these special provisions, it may be shipped in New Zealand as a non-dangerous goods under provisions in NZS 5433 code which accepts IMDG and IATA classification.

This information is not intended to convey all specific regulatory or operational requirements/ information relating to this product. 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.

15. REGULATORY INFORMATION

ACVMG APPROVAL NUMBER: P7719
HSNO Approval Code: HSR007849

ADVICE TO PRODUCT USERS REGARDING HSNO CONTROLS: Users of this product should make reference to the New Zealand Hazardous Substances and New Organisms Act and Regulations for relevant risk management controls. Additional local requirements may be applicable in accordance with planning controls under the Resource Management Act. Refer to Environment Protection Authority publication; User Guide to the HSNO Controls Regulations. http://www.epa.govt.nz

16. OTHER INFORMATION

Revision
Identification Number: 101188173/ A157 / Issue Date: 31.10.2019 / Version: Replaces 24.02.2017
DAS Code: GF-1784
Sections amended: 1, 2, 6, 14, 16

Legend

ACGIH	American Conference of Governmental Industrial Hygienists. Threshold Limit Values
Dow IHG	Dow AgroSciences Industrial Hygiene Guideline
NZ OEL	New Zealand Occupational Exposure Limits
SKIN	Absorbed via skin
STEL	Short Term Exposure Limit
TWA	8hr Time Weighted Average
US WEEL	USA. Workplace Environmental Exposure Levels
WES-STEL	Workplace Exposure Standard – Short Term Exposure Limit
WES-TWA	Workplace Exposure Standard - Time Weighted Average

Full text of other abbreviations
AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice;

IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

DOW AGROSCIENCES* (NZ) 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)SDS's, we are not and cannot be responsible for (M)SDS's 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.