

# SAFETY DATA SHEET

## DOW AGROSCIENCES SOUTHERN AFRICA PTY LTD

**Product name:** BROADSTRIKE™ 800 WG

**Issue Date:** 12.02.2020

**Print Date:** 28.04.2020

DOW AGROSCIENCES SOUTHERN AFRICA PTY LTD encourages you and expects you to read and understand the entire 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.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name:** BROADSTRIKE™ 800 WG

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Plant Protection Product Herbicide

### COMPANY IDENTIFICATION

DOW AGROSCIENCES SOUTHERN AFRICA PTY LTD

GROUND FLOOR MAGWA BUILDING

MAXWELL OFFICE PARK MAGWA CRESCENT

MIDRAND

1686

SOUTH AFRICA

**Customer Information Number:**

SDS@corteva.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** +32 3 575 55 55

**Local Emergency Contact:** +27 82 895 0621

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## 2. HAZARDS IDENTIFICATION

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### Classification of the substance or mixture

Short-term (acute) aquatic hazard - Category 1 - H400

Long-term (chronic) aquatic hazard - Category 1 - H410

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

### Label elements

### Hazard pictograms



**Signal word: WARNING**

**Hazard statements**

H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P391 Collect spillage.

P501 Dispose of contents/container in accordance with applicable regulations.

**Supplemental information**

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

**Other hazards**

No data available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

| CASRN /<br>EC-No. /<br>Index-No.                             | Concentration | Component   | Classification   |
|--|---------------|---|--|
| CASRN<br>98967-40-9<br>EC-No.<br>619-383-6<br>Index-No.<br>- | 80,36%        | Flumetsulam   | Aquatic Acute - 1 - H400<br>Aquatic Chronic - 1 - H410 |
| CASRN<br>9005-25-8<br>EC-No.<br>232-679-6<br>Index-No.<br>-  | < 10,0 %      | Starch  | Not classified   |
| CASRN<br>8061-51-6<br>EC-No.<br>Polymer<br>Index-No.<br>-    | < 5,0 %       | Sodium lignosulfonate                                 | Not classified   |
| CASRN<br>1258274-08-6  | < 5,0 %       | Aromatic hydrocarbons, C10-13, reaction products with | Skin Irrit. - 2 - H315<br>Eye Dam. - 1 - H318          |

|  |         |  |  |
|--|---------|--|--|
| <b>EC-No.</b><br>800-660-7<br><b>Index-No.</b><br>—                            |         | branched nonene, sulfonated, sodium salts                                      |  |
| <b>CASRN</b><br>9003-39-8<br><b>EC-No.</b><br>Polymer<br><b>Index-No.</b><br>— | < 5,0 % | Polyvinylpyrrolidone   | Not classified   |
| <b>CASRN</b><br>98967-55-6<br><b>EC-No.</b><br>—<br><b>Index-No.</b><br>—      | < 1,0 % | N-(2,6-Difluorophenyl)-7-methyl-1,2,4-triazolo(1,5-A)pyrimidine-2-sulfon amide | Aquatic Acute - 1 - H400<br>Aquatic Chronic - 1 - H410 |

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

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## 4. FIRST AID MEASURES

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### 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:** 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.

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## 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

**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: Sulfur oxides. Nitrogen oxides. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.

**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). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. 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: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact the company for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Good housekeeping and controlling of dusts are necessary for safe handling of product. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

| Component   | Regulation | Type of listing              | Value/Notation       |
|-------------|------------|------------------------------|----------------------|
| Flumetsulam | Dow IHG    | TWA                          | 3 mg/m <sup>3</sup>  |
| Starch      | ACGIH      | TWA                          | 10 mg/m <sup>3</sup> |
|             | ZA OEL     | TWA OEL-RL                   | 5 mg/m <sup>3</sup>  |
|             |            | Respirable dust              |                      |
|             | ZA OEL     | TWA OEL-RL<br>inhalable dust | 10 mg/m <sup>3</sup> |

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). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

#### 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 EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove is recommended to prevent contact with the solid material. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. 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. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2 (meeting standard EN 14387).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

|  |  |
|--|--|
| Physical state                         | Granules.                                      |
| Color                                  | Brown  |
| Odor                                   | Sweet  |
| Odor Threshold                         | No test data available                         |
| pH                                     | 6,1 <i>pH Electrode</i> 10% aqueous solution   |
| Melting point/range                    | No test data available                         |
| Freezing point                         | No data available                              |
| Boiling point (760 mmHg)               | Not applicable                                 |
| Flash point                            | <b>closed cup</b> No test data available       |
| Evaporation Rate (Butyl Acetate = 1)   | Not applicable                                 |
| Flammability (solid, gas)              | No   |
| Lower explosion limit                  | Not applicable                                 |
| Upper explosion limit                  | Not applicable                                 |
| Vapor Pressure                         | Not applicable                                 |
| Relative Vapor Density (air = 1)       | Not applicable                                 |
| Relative Density (water = 1)           | No test data available                         |
| Water solubility                       | Disperses in water                             |
| Partition coefficient: n-octanol/water | No data available                              |
| Auto-ignition temperature              | Not applicable                                 |
| Decomposition temperature              | No test data available                         |
| Kinematic Viscosity                    | No data available                              |
| Explosive properties                   | No   |
| Oxidizing properties                   | No significant increase (>5C) in temperature.  |
| Bulk density                           | 0,48 kg/m <sup>3</sup> <i>Loose Volumetric</i> |
| Molecular weight                       | No data available                              |

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

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## 10. STABILITY AND REACTIVITY

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

**Chemical stability:** Thermally stable at recommended temperatures and pressures.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose.

**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: Carbon monoxide. Carbon dioxide. Hydrogen fluoride. Nitrogen oxides. Sulfur oxides.

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## 11. TOXICOLOGICAL INFORMATION

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

### Acute toxicity

#### Acute oral toxicity

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

As product:

LD50, Rat, > 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, Rabbit, > 2 000 mg/kg No deaths occurred at this concentration.

#### Acute inhalation toxicity

Vapors are unlikely due to physical properties. No adverse effects are anticipated from single exposure to dust. Based on the available data, respiratory irritation was not observed.

As product:

LC50, Rat, 4 Hour, Respirable dust., > 5,15 mg/l No deaths occurred at this concentration.

### Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause slight skin irritation with local redness.

### Serious eye damage/eye irritation

May cause pain disproportionate to the level of irritation to eye tissues.

May cause slight eye irritation.

Corneal injury is unlikely.

### Sensitization

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

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

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

**Carcinogenicity**

Active ingredient did not cause cancer in laboratory animals.

**Teratogenicity**

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

**Reproductive toxicity**

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

**Mutagenicity**

For the active ingredient(s): 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.

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## 12. ECOLOGICAL INFORMATION

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity**

**Acute toxicity to fish**

As product:

LC50, *Oncorhynchus mykiss* (rainbow trout), semi-static test, 96 Hour, > 122 mg/l

**Acute toxicity to aquatic invertebrates**

As product:

EC50, *Daphnia magna* (Water flea), 48 Hour, > 122 mg/l

**Acute toxicity to algae/aquatic plants**

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

As product:

ErC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, > 0,030 mg/l

**Toxicity to Above Ground Organisms**

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



As product:

oral LD50, *Colinus virginianus* (Bobwhite quail), > 2000mg/kg bodyweight.

As product:

oral LD50, *Apis mellifera* (bees), 48 Hour, > 100micrograms/bee

As product:

contact LD50, *Apis mellifera* (bees), 48 Hour, > 100micrograms/bee

**Toxicity to soil-dwelling organisms**

LC50, *Eisenia fetida* (earthworms), 14 d, > 1 000 mg/kg

**Persistence and degradability**

**Flumetsulam**

**Biodegradability:** Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

**Biodegradation:** 3 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

**Theoretical Oxygen Demand:** 1,03 mg/mg

**Chemical Oxygen Demand:** 1,12 mg/mg

**Stability in Water (1/2-life)**

Hydrolysis, > 365 d, pH 4 - 9, Half-life Temperature 50 °C, Stable

**Starch**

**Biodegradability:** Biodegradation may occur under aerobic conditions (in the presence of oxygen).

**Sodium lignosulfonate**

**Biodegradability:** No relevant information found.

**Photodegradation**

**Atmospheric half-life:** 0,098 d

**Method:** Estimated.

**Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts**

**Biodegradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

**Polyvinylpyrrolidone**

**Biodegradability:** No relevant data found.

**N-(2,6-Difluorophenyl)-7-methyl-1,2,4-triazolo(1,5-A)pyrimidine-2-sulfon amide**

**Biodegradability:** For similar material(s): Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

**Biodegradation:** 3 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

**Theoretical Oxygen Demand:** 1,03 mg/mg

**Chemical Oxygen Demand:** 1,12 mg/mg

**Stability in Water (1/2-life)**

Hydrolysis, > 365 d, pH 4 - 9, Half-life Temperature 50 °C, Stable

**Bioaccumulative potential**

**Bioaccumulation:** No data available.

**Mobility in soil**

**Flumetsulam**

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

**Partition coefficient (Koc):** 15

**Starch**

No relevant data found.

**Sodium lignosulfonate**

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

**Partition coefficient (Koc):** > 99999 Estimated.

**Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts**

No relevant data found.

**Polyvinylpyrrolidone**

No relevant data found.

**N-(2,6-Difluorophenyl)-7-methyl-1,2,4-triazolo(1,5-A)pyrimidine-2-sulfon amide**

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

For similar material(s):

**Partition coefficient (Koc):** 15

**Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Other adverse effects**

**Flumetsulam**

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

**Starch**

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

**Sodium lignosulfonate**

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

**Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts**

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

**N-(2,6-Difluorophenyl)-7-methyl-1,2,4-triazolo(1,5-A)pyrimidine-2-sulfon amide**

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

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## 13. DISPOSAL CONSIDERATIONS

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**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.

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## 14. TRANSPORT INFORMATION

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**Classification for ROAD and Rail transport:**

|                              |   |
|------------------------------|---|
| <b>Proper shipping name</b>  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Flumetsulam) |
| <b>UN number</b>             | UN 3077   |
| <b>Class</b>                 | 9   |
| <b>Packing group</b>         | III   |
| <b>Environmental hazards</b> | Flumetsulam   |

**Classification for SEA transport (IMO-IMDG):**

|   |   |
|---|---|
| <b>Proper shipping name</b>   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Flumetsulam) |
| <b>UN number</b>  | UN 3077   |
| <b>Class</b>  | 9   |
| <b>Packing group</b>  | III   |
| <b>Marine pollutant</b>   | Flumetsulam   |
| <b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b> | Consult IMO regulations before transporting ocean bulk          |

**Classification for AIR transport (IATA/ICAO):**

|                             |   |
|-----------------------------|---|
| <b>Proper shipping name</b> | Environmentally hazardous substance, solid, n.o.s.(Flumetsulam) |
| <b>UN number</b>            | UN 3077   |

|                      |     |
|----------------------|-----|
| <b>Class</b>         | 9   |
| <b>Packing group</b> | III |

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.

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## 15. REGULATORY INFORMATION

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### **Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.**

Listed in Regulation: ENVIRONMENTAL HAZARDS

Number in Regulation: E1

100 t

200 t

### **National Fire Code of Canada**

Not applicable

Classification and labeling have been performed according to Regulation (EC) No 1272/2008.

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## 16. OTHER INFORMATION

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

|      |   |
|------|---|
| H315 | Causes skin irritation.                               |
| H318 | Causes serious eye damage.                            |
| H400 | Very toxic to aquatic life.                           |
| H410 | Very toxic to aquatic life with long lasting effects. |

### **Revision**

Identification Number: 11020713 / A290 / Issue Date: 12.02.2020 / Version: 5.0

DAS Code: BF-308

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

### **Legend**

|            |   |
|------------|---|
| ACGIH      | USA. ACGIH Threshold Limit Values (TLV)   |
| Dow IHG    | Dow Industrial Hygiene Guideline  |
| TWA        | Time Weighted Average (TWA):  |
| TWA OEL-RL | Long term occupational exposure limits - recommended limit                            |
| ZA OEL     | South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits |

|                 |                                    |
|-----------------|------------------------------------|
| Aquatic Acute   | Short-term (acute) aquatic hazard  |
| Aquatic Chronic | Long-term (chronic) aquatic hazard |
| Eye Dam.        | Serious eye damage                 |
| Skin Irrit.     | Skin irritation                    |

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

### 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 SOUTHERN AFRICA PTY LTD 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.

ZA