

# SAFETY DATA SHEET

DOW AGROSCIENCES CANADA INC.

Product name: INTAKE™ Adjuvant

Issue Date: 05/07/2019

Print Date: 05/07/2019

DOW AGROSCIENCES CANADA INC. 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.

# 1. IDENTIFICATION

Product name: INTAKE™ Adjuvant

Recommended use of the chemical and restrictions on use

Identified uses: Adjuvants

COMPANY IDENTIFICATION
DOW AGROSCIENCES CANADA INC.
#2400, 215 - 2ND STREET S.W.
CALGARY AB T2P 1M4

**CANADA** 

Customer Information Number: 800-667-3852 solutions@dow.com

**EMERGENCY TELEPHONE NUMBER 24-Hour Emergency Contact:** 613-996-6666 **Local Emergency Contact:** 613-996-6666

# 2. HAZARDS IDENTIFICATION

# **Emergency Overview**

Appearance

Odor

Physical state Liquid

Color Yellow

Aromatic

Hazard Summary CAUTION!!

Combustible liquid and vapor. May cause eye irritation.

isolate area.

Highly toxic to fish and/or other aquatic organisms.

### **Potential Health Effects**

Eyes: May cause moderate eye irritation.

Corneal injury is unlikely.

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

Brief contact may cause slight skin irritation with local redness.

Inhalation: No adverse effects are anticipated from single exposure to mist.

Based on the available data, respiratory irritation was not observed.

Ingestion: Very low toxicity if swallowed.

Harmful effects not anticipated from swallowing small amounts.

May be fatal if swallowed and enters airways.

**Chronic Exposure:** Based on information for component(s):

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

Kidney.

Liver.

Adrenal gland.

Bone marrow.

Gastrointestinal tract.

Thymus.

Thyroid.

Urinary tract.

Lung.

Stomach.

Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Weight percent
	0.47.40.55.0	20.0 70.04
Distillates (Petroleum), Hydrotreated Light Paraffinic	64742-55-8	>= 60.0 - < 70.0 %
Alkylphenol alkoxylate	69029-39-6	>= 10.0 - < 20.0 %
Heavy aromatic naphtha	64742-94-5	>= 3.0 - < 10.0 %
Naphthalene	91-20-3	>= 0.3 - < 1.0 % *
Balance	Not available	>= 10.0 - < 20.0 %

Note

The "\*", or "asterisk", denotes sub-components included in Heavy aromatic naphtha, CASRN 64742-94-5.

### 4. FIRST AID MEASURES

# 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.

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**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. Suitable emergency eye wash facility should be available in work area.

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

# 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:** If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. 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.

### 5. FIREFIGHTING MEASURES

**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: 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. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

# 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. No smoking in area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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

**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.

### 7. HANDLING AND STORAGE

**Precautions for safe handling:** Keep away from heat, sparks and flame. Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Containers, even those that have been emptied, can contain vapors. 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.

# 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.

Consult local authorities for recommended exposure limits.

Component	Regulation	Type of listing	Value/Notation
Distillates (Petroleum),	ACGIH	TWA Inhalable	5 mg/m3
Hydrotreated Light Paraffinic		fraction	
	CA AB OEL	TWA Mist	5 mg/m3
	CA AB OEL	STEL Mist	10 mg/m3
	CA QC OEL	TWAEV Mist	5 mg/m3
	CA QC OEL	STEV Mist	10 mg/m3
	CA BC OEL	TWA Mist	1 mg/m3
Alkylphenol alkoxylate	Dow IHG	TWA	2 mg/m3
Heavy aromatic naphtha	ACGIH	TWA	200 mg/m3 , total
			hydrocarbon vapor
	Dow IHG	TWA	100 mg/m3
	Dow IHG	STEL	300 mg/m3

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	CA AB OEL	TWA	200 mg/m3 , total hydrocarbon vapor
Naphthalene	ACGIH	TWA	10 ppm
	CA AB OEL	TWA	52 mg/m3 10 ppm
	CA AB OEL	STEL	79 mg/m3 15 ppm
	CA BC OEL	TWA	10 ppm
	CA BC OEL	STEL	15 ppm
	CA QC OEL	TWAEV	52 mg/m3 10 ppm
	CA QC OEL	STEV	79 mg/m3 15 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 chemical goggles.

# Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). 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 vapor cartridge

# 9. PHYSICAL AND CHEMICAL PROPERTIES

with a particulate pre-filter.

**Appearance** 

Physical stateLiquidColorYellowOdorAromatic

Odor Threshold No test data available

pH 7.2 10% CIPAC MT 75.2 No test data available

Melting point/range Not applicable

Freezing point No test data available
Boiling point (760 mmHg) > 180 °C Literature

Flash point closed cup 93 °C Pensky-Martens Closed Cup ASTM D 93

Evaporation Rate (Butyl Acetate No test data available

= 1)

Flammability (solid, gas)

Lower explosion limit

Upper explosion limit

Vapor Pressure

Relative Vapor Density (air = 1)

Relative Density (water = 1)

No data available

No test data available

No test data available

No test data available

No test data available

Water solubility Emulsion

Partition coefficient: n- No data available

octanol/water

Auto-ignition temperature

Decomposition temperature

Kinematic Viscosity

Explosive properties

No test data available
No data available
No data available
No data available
No data available

**Liquid Density** 0.880 g/cm3 at 20 °C *Digital density meter* 

Molecular weight No data available

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:** Thermally stable at typical use 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. Toxic gases are released during decomposition.

### 11. TOXICOLOGICAL INFORMATION

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.

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

# Acute dermal toxicity

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

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

#### Acute inhalation toxicity

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

As product:

LC50, Rat, 4 Hour, dust/mist, > 5.58 mg/l No deaths occurred at this concentration.

#### Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

# Serious eye damage/eye irritation

May cause moderate 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)

Based on information for component(s):

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

Kidney.

Liver.

Adrenal gland.

Bone marrow.

Gastrointestinal tract.

Thymus.

Thyroid.

Urinary tract.

Stomach.

Lung.

### Carcinogenicity

For the major component(s): No relevant data found.

A risk assessment has been conducted for this product and has shown, that under normal handling, the minor components will not pose a hazard.

### **Teratogenicity**

Based on information for component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

# Reproductive toxicity

Based on information for component(s): In animal studies, did not interfere with reproduction.

# Mutagenicity

Based on information for component(s): In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

### **Aspiration Hazard**

May be fatal if swallowed and enters airways.

# 12. ECOLOGICAL INFORMATION

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

### **Toxicity**

### Distillates (Petroleum), Hydrotreated Light Paraffinic

### Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). LC50, Pimephales promelas (fathead minnow), 96 Hour, > 100 mg/l

# Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

# Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l

### Alkylphenol alkoxylate

# Acute toxicity to fish

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 4.8 mg/l, OECD Test Guideline 203 or Equivalent

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 3.7 mg/l, OECD Test Guideline 203 or Equivalent

# Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, 10.5 mg/l, OECD Test Guideline 202 or Equivalent

### **Toxicity to Above Ground Organisms**

dietary LC50, Apis mellifera (bees), 2 d, > 105micrograms/bee contact LD50, Apis mellifera (bees), 2 d, > 100micrograms/bee No Observed Effects Level (NOEL), Colinus virginianus (Bobwhite quail), 2,250 mg/kg oral LD50, Colinus virginianus (Bobwhite quail), > 2,250 mg/kg

# Heavy aromatic naphtha

### Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Gambusia affinis (Mosquito fish), 96 Hour, 811 mg/l

### Acute toxicity to algae/aquatic plants

EC50, Algae, 72 Hour, 21 - 165 mg/l

#### Naphthalene

### 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), 96 Hour, 0.11 mg/l

# Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, 1.6 - 24.1 mg/l

# Acute toxicity to algae/aquatic plants

ErC50, Skeletonema costatum (marine diatom), Growth rate inhibition, 72 Hour, 0.4 mg/l

# Chronic toxicity to fish

NOEC, Other, flow-through, 40 d, mortality, 0.37 mg/l

#### **Balance**

#### Acute toxicity to fish

No relevant data found.

### Persistence and degradability

# Distillates (Petroleum), Hydrotreated Light Paraffinic

**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:** 31 % **Exposure time:** 28 d

Method: OECD Test Guideline 301F or Equivalent

# Alkylphenol alkoxylate

Biodegradability: Biodegradation under aerobic laboratory conditions is below detectable

limits (BOD20 or BOD28/ThOD < 2.5%).

Theoretical Oxygen Demand: 2.35 mg/mg

Chemical Oxygen Demand: 1.78 mg/mg

### Heavy aromatic naphtha

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

### **Naphthalene**

**Biodegradability:** Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

Theoretical Oxygen Demand: 3.00 mg/mg

# Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	57.000 %
10 d	71.000 %
20 d	71.000 %

### **Photodegradation**

Test Type: Half-life (indirect photolysis)

**Sensitization:** OH radicals **Atmospheric half-life:** 5.9 Hour

Method: Estimated.

# **Balance**

Biodegradability: No relevant data found.

# Bioaccumulative potential

### <u>Distillates (Petroleum), Hydrotreated Light Paraffinic</u>

**Bioaccumulation:** For this family of materials: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

#### Alkylphenol alkoxylate

**Bioaccumulation:** No bioconcentration is expected because of the relatively high water solubility. May foam in water.

#### Heavy aromatic naphtha

**Bioaccumulation:** For similar material(s): Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

### **Naphthalene**

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

Partition coefficient: n-octanol/water(log Pow): 3.4 OECD Test Guideline 107

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

#### **Balance**

Bioaccumulation: No relevant data found.

# Mobility in soil

### Distillates (Petroleum), Hydrotreated Light Paraffinic

No relevant data found.

#### Alkylphenol alkoxylate

No data available.

# Heavy aromatic naphtha

No relevant data found.

### Naphthalene

Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient (Koc): 664

### **Balance**

No relevant data found.

# 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.

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# 14. TRANSPORT INFORMATION

**TDG** 

Not regulated for transport

# Classification for SEA transport (IMO-IMDG):

Not regulated for transport

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

Issue Date: 05/07/2019

# Classification for AIR transport (IATA/ICAO):

Not regulated for transport

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.

# 15. REGULATORY INFORMATION

#### Hazardous Products Act Information: WHMIS Classification

This product is exempt under WHMIS.

# **National Fire Code of Canada**

Not applicable

### Canadian Domestic Substances List (DSL)

This product contains chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements.

Pest Control Products Act (PCPA) Registration Number: 31243

# 16. OTHER INFORMATION

### **Hazard Rating System**

### **NFPA**

Health	Flammability	Instability
1	2	0

# Revision

Identification Number: 11084494 / A215 / Issue Date: 05/07/2019 / Version: 5.0

DAS Code: GF-303

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)
CA AB OEL	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	Canada. British Columbia OEL
CA QC OEL	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1:
	Permissible exposure values for airborne contaminants
Dow IHG	Dow Industrial Hygiene Guideline
STEL	15-minute occupational exposure limit
STEV	Short-term exposure value
TWA	Time Weighted Average (TWA):
TWAEV	Time-weighted average exposure value

#### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA -Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals: RQ - Reportable Quantity: SADT - Self-Accelerating Decomposition Temperature: SARA -Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; 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 CANADA INC. 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. CA

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