

# **SAFETY DATA SHEET**

CORTEVA AGRISCIENCE (MALAYSIA) SDN. BHD.

Product name: LOYANT™ 25EC Herbicide Issue Date: 06.07.2021

Print Date: 09.08.2021

CORTEVA AGRISCIENCE (MALAYSIA) SDN. BHD. 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 OF THE HAZARDOUS CHEMICAL AND OF THE SUPPLIER

Product name: LOYANT™ 25EC Herbicide

Recommended use of the chemical and restrictions on use

Identified uses: End use herbicide product

**COMPANY IDENTIFICATION** 

CORTEVA AGRISCIENCE (MALAYSIA) SDN. BHD. B-3-3, THE ASCENT PARADIGM NO. 1, JALAN SS7/26A, KELANA JAYA 47301 PETALING JAYA Selangor Darul Ehsan MALAYSIA

Customer Information Number : 603-7800 0280 E-mail address : SDS@corteva.com

**EMERGENCY TELEPHONE** 

**24-Hour Emergency Contact** : 999

Local Emergency Contact : 603-7800 0287

# 2. HAZARDS IDENTIFICATION

# **GHS Classification**

Classified as hazardous according to regulatory criteria.

Hazardous to the aquatic environment - acute hazard - Category 1

Hazardous to the aquatic environment - chronic hazard - Category 1

# GHS label elements Hazard pictograms



Issue Date: 06.07.2021

Signal Word: WARNING!

# **Hazard statements**

Very toxic to aquatic life with long lasting effects.

# **Precautionary statements**

# Prevention

Avoid release to the environment.

# Response

Collect spillage.

# **Disposal**

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

#### Other hazards

No data available

# 3. COMPOSITION AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

This product is a mixture.

Component	CASRN	Concentration
Florpyrauxifen-benzyl	1390661-72-9	2.7%
Ethylhexanol	104-76-7	>= 1.0 - < 3.0 %
Methanol	67-56-1	>= 0.3 - < 1.0 %
Balance	Not available	> 90.0 %

# 4. FIRST AID MEASURES

# **Description of first aid measures**

# General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Eye contact**: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**Ingestion:** 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.

# 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

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:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

# Advice for firefighters

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Do not use direct water stream. May spread fire. 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:** 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 the company 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. 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. 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.

Component	Regulation	Type of listing	Value/Notation
Ethylhexanol	Corteva OEL	TWA	2 ppm SKIN
Methanol	ACGIH	TWA	200 ppm
	ACGIH	STEL	250 ppm
	ACGIH	TWA	SKIN, BEI
	ACGIH	STEL	SKIN, BEI
	MY PEL	TWA	SKIN
	MY PEL	TWA	262 mg/m3 200 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.

**Biological occupational exposure limits** 

Components	CAS-No.	Control	Biological	Sampling	Permissible	Basis
		parameters	specimen	time	concentration	

Methanol G7-56-1 Methanol Urine End of 15 mg/l ACGIH

shift (As soon as possible after exposure ceases) Issue Date: 06.07.2021

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**Exposure controls** 

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

# Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). **Skin protection** 

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

# 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** 

Physical state Liquid.
Color Yellow
Odor Solvent

Odor Threshold No data available

pH 4.24 1% (1% aqueous suspension)

Melting point/range Not applicable to liquids

Freezing point No data available

Boiling point (760 mmHg) No data available

Product name: LOYANT™ 25EC Herbicide

Flash point > 100 °C

Evaporation Rate (Butyl Acetate No data available

= 1)

Flammability (solid, gas)

Lower explosion limit

No data available

Upper explosion limit

No data available

Vapor Pressure 0.0000002 mmHg at 20 °C

Relative Vapor Density (air = 1)

Relative Density (water = 1)

Water solubility

No data available

0.015 mg/l at 20 °C

Partition coefficient: n
No data available

octanol/water

Auto-ignition temperature 260 °C

**Decomposition temperature** No data available

**Dynamic Viscosity** 15.4 mPa.s at 20 °C 8.90 mPa.s at 40 °C

Kinematic Viscosity

Explosive properties

No data available
Not explosive

Oxidizing properties

No significant increase (>5C) in temperature.

Liquid Density

0.9257 g/mL 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.

**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 chloride. Hydrogen fluoride. Nitrogen oxides.

#### 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.

As product:

LD50, Rat, female, > 5,000 mg/kg OECD Test Guideline 423 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 OECD Test Guideline 402 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.

As product:

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.40 mg/l OECD Test Guideline 403 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 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)

Evaluation of available data suggests that this material is not an STOT-RE toxicant.

#### Carcinogenicity

For the active ingredient(s): Did not cause cancer in laboratory animals. For the major component(s): No relevant data found.

#### **Teratogenicity**

For the active ingredient(s): Did not cause birth defects or any other fetal effects in laboratory animals.

For the major component(s): No relevant data found. For the minor component(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. These concentrations exceed relevant human dose levels.

#### Reproductive toxicity

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

For the major component(s): In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

# Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

#### **Aspiration Hazard**

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

# 12. ECOLOGICAL INFORMATION

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

# **Ecotoxicity**

#### Acute toxicity to fish

Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).

LC50, Cyprinus carpio (Carp), semi-static test, 96 Hour, > 120 mg/l, OECD Test Guideline 203 or Equivalent

#### Acute toxicity to aquatic invertebrates

Material is slightly toxic to aquatic invertebrates on an acute basis (LC50/EC50 between 10 and 100 mg/L).

EC50, Daphnia magna (Water flea), 48 Hour, 49 mg/l, OECD Test Guideline 202

#### Acute toxicity to algae/aguatic plants

Material is very highly toxic to some aquatic vascular plant species.

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 5.4 mg/l, OECD Test Guideline 201

ErC50, Myriophyllum spicatum, 14 d, 0.000919 mg/l

NOEC, Myriophyllum spicatum, 14 d, 0.0000954 mg/l

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

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

oral LD50, Colinus virginianus (Bobwhite quail), > 2500mg/kg bodyweight.

oral LD50, Apis mellifera (bees), 48 Hour, > 212.2µg/bee

contact LD50, Apis mellifera (bees), 48 Hour, > 200µg/bee

# Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, mortality, > 2,500 mg/kg

#### Persistence and degradability

#### Florpyrauxifen-benzyl

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Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass

OECD/EEC tests for ready biodegradability.

10-day Window: Fail **Biodegradation:** 14.6 % Exposure time: 29 d

Method: OECD Test Guideline 301B

# Stability in Water (1/2-life)

Hydrolysis, DT50, 913 d, pH 4, Half-life Temperature 25 °C Hydrolysis, DT50, 111 d, pH 7, Half-life Temperature 25 °C Hydrolysis, DT50, 1.3 d, pH 9, Half-life Temperature 25 °C

# **Ethylhexanol**

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

biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s)

for inherent biodegradability). 10-day Window: Not applicable **Biodegradation:** > 95 % Exposure time: 5 d

Method: OECD Test Guideline 302B or Equivalent

10-day Window: Pass **Biodegradation:** 68 % Exposure time: 17 d

Method: OECD Test Guideline 301B or Equivalent

Theoretical Oxygen Demand: 2.95 mg/mg

Chemical Oxygen Demand: 2.70 mg/mg

# Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	26 - 70 %
10 d	75 - 81 %
20 d	86 - 87 %

#### **Photodegradation**

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals Atmospheric half-life: 9.7 Hour

Method: Estimated.

#### Methanol

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

biodegradability. 10-day Window: Pass **Biodegradation:** 99 % Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

Theoretical Oxygen Demand: 1.50 mg/mg

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Chemical Oxygen Demand: 1.49 mg/mg Dichromate

# Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	72 %
20 d	79 %

**Photodegradation** 

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals Atmospheric half-life: 8 - 18 d

Method: Estimated.

**Balance** 

Biodegradability: No relevant data found.

Bioaccumulative potential

Florpyrauxifen-benzyl

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow

between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 5.5 at 20 °C

Bioconcentration factor (BCF): 356 Lepomis macrochirus (Bluegill sunfish) 30 d

**Ethylhexanol** 

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow

between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 3.1 Measured

**Methanol** 

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

Partition coefficient: n-octanol/water(log Pow): -0.77 Measured

Bioconcentration factor (BCF): < 10 Fish Measured

**Balance** 

Bioaccumulation: No relevant data found.

**Mobility in Soil** 

Florpyrauxifen-benzyl

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

Partition coefficient (Koc): 34200

**Ethylhexanol** 

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

Partition coefficient (Koc): 800 Estimated.

Methanol

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

Partition coefficient (Koc): 0.44 Estimated.

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#### **Balance**

No relevant data found.

# Results of PBT and vPvB assessment

#### Florpyrauxifen-benzyl

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

#### Ethylhexanol

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

### Methanol

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

#### **Balance**

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

#### Other adverse effects

# Florpyrauxifen-benzyl

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

#### **Ethylhexanol**

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

#### Methanol

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

# **Balance**

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

# 13. DISPOSAL INFORMATION

**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.

# 14. TRANSPORTATION INFORMATION

#### Classification for ROAD and Rail transport:

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.(Florpyrauxifen-benzyl)

UN number UN 3082

Class 9
Packing group III

**Environmental hazards** Florpyrauxifen-benzyl

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

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.(Florpyrauxifen-benzyl)

UN number UN 3082

Class 9 Packing group III

Marine pollutant Florpyrauxifen-benzyl

Transport in bulk Consult IMO regulations before transporting ocean bulk

according to Annex I or II of MARPOL 73/78 and the

**IBC or IGC Code** 

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

**Proper shipping name** Environmentally hazardous substance, liquid,

n.o.s.(Florpyrauxifen-benzyl)

UN number UN 3082

Class 9 Packing group III

#### **Further information:**

Marine Pollutants assigned UN number 3077 and 3082 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, IATA special provision A197, and ADR/RID special provision 375.

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

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

# 16. OTHER INFORMATION

#### **Hazard Rating System**

#### **NFPA**

Health	Flammability	Instability
1	1	0

#### Revision

Identification Number: 97050258 / Issue Date: 06.07.2021 / Version: 1.3

DAS Code: GF-3206

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

#### Legend

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ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
Corteva OEL	Corteva Occupational Exposure Limit
MY PEL	Malaysia. Occupational Safety and Health (Use and Standards of Exposure of
	Chemicals Hazardous to Health) Regulations 2000.
SKIN	Absorbed via skin
SKIN, BEI	Absorbed via Skin, Biological Exposure Indice
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average

#### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; 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

CORTEVA AGRISCIENCE (MALAYSIA) SDN. BHD. 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.