

Product name: APPLAUD® Insecticide**Issue Date:** 6.01.2021

CORTEVA AGRISCIENCE AUSTRALIA 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.

SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product name: APPLAUD® Insecticide**Recommended use of the chemical and restrictions on use****Identified uses:** End use insecticide product**COMPANY IDENTIFICATION**

CORTEVA AGRISCIENCE AUSTRALIA PTY LTD
LEVEL 9, 67 ALBERT AVENUE
CHATSWOOD NSW 2067
AUSTRALIA

Customer Information Number:

1800-700-096
aucustomerservice@corteva.com

EMERGENCY TELEPHONE NUMBER**24-Hour Emergency Contact:** +61 2 9474 7350**Local Emergency Contact:** 1800-370-754**For advice, contact a doctor (at once) or the Australian Poisons Information Centre:** 131 126**Transport Emergency Only Dial** 000

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification

Acute aquatic toxicity - Category 3

Chronic aquatic toxicity - Category 1

GHS label elements**Hazard pictograms**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

Other hazards

No data available

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

This product is a mixture.

| Component | CASRN | Concentration |
|------------------|---------------|---------------|
| Buprofezin | 69327-76-0 | 40.0% |
| Propylene glycol | 57-55-6 | < 5.0 % |
| Balance | Not available | <= 56.0 % |

SECTION 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.

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 plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Suitable emergency safety shower facility should be available in 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.

SECTION 5: FIREFIGHTING MEASURES

Hazchem Code: •2X

Suitable extinguishing media: To extinguish combustible residues of the product use water fog, carbon dioxide, dry chemical or foam.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions some components of the product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Sulfur oxides. Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residues can burn. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep 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.

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 suitably and properly labelled containers. Large spills: Contact Corteva Agriscience for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

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

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

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

| Component | Regulation | Type of listing | Value/Notation |
|------------------|------------|----------------------------------|-------------------------------|
| Propylene glycol | US WEEL | TWA | 10 mg/m ³ |
| | AU OEL | TWA Total (vapour and particles) | 474 mg/m ³ 150 ppm |
| | AU OEL | TWA particulate | 10 mg/m ³ |

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 engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

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: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Avoid gloves made of: Polyvinyl alcohol ("PVA"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 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, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

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

Other Information: Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:
 AS/NZS 1336: Eye and face protection – Guidelines.
 AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.
 AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.
 AS/NZS 2161: Occupational protective gloves.
 AS/NZS 2210: Occupational protective footwear.
 AS/NZS 4501: Occupational protective clothing Set

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| | |
|---|--|
| Physical state | Liquid. |
| Colour | Off-white |
| Odour | No odour information provided |
| Odour Threshold | No data available |
| pH | No data available |
| Melting point/range | Not applicable to liquids |
| Freezing point | No data available |
| Boiling point (760 mmHg) | 100 °C <i>Literature</i> |
| Flash point - closed cup | Not applicable |
| Evaporation Rate (Butyl Acetate = 1) | No data available |
| Flammability (solid, gas) | No data available |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Vapor Pressure | No data available |
| Relative Vapor Density (air = 1) | No data available |
| Relative Density (water = 1) | No data available |
| Water solubility | Disperses in water <i>Literature</i> |
| Partition coefficient: n-octanol/water | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Kinematic Viscosity | No data available |
| Explosive properties | No data available |
| Oxidizing properties | No data available |
| Liquid Density | 1.09 g/cm ³ at °C <i>Literature</i> |
| Molecular weight | No data available |

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

SECTION 10: STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Can coagulate if frozen. Active ingredient decomposes at elevated temperatures.

Incompatible materials: Avoid contact with: Strong oxidizers. Addition of chemicals may cause phase separation.

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. Nitrogen oxides. Sulfur oxides. Toxic gases are released during decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity**Acute oral toxicity**

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

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

Acute dermal toxicity

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

As product: LD50, Rabbit, male and female, > 2,000 mg/kg

Acute inhalation toxicity

Prolonged excessive exposure to mist may cause adverse effects. Mist may cause irritation of upper respiratory tract (nose and throat).

LC50, Rat, male and female, Mist, >0.93 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 eye irritation.

May cause slight corneal injury.

May cause lacrimation (tears).

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: Liver. Thyroid. Skin.

Carcinogenicity

For the active ingredient(s). Did not cause cancer in laboratory animals.

Teratogenicity

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

Reproductive toxicity

For the active ingredient(s). In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity

For the active ingredient(s): In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

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

SECTION 12: ECOLOGICAL INFORMATION

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

Ecotoxicity**Acute toxicity to fish**

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

LC50, Cyprinus carpio (Carp), 96 Hour, > 95.8 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia (water flea), 48 Hour, 71.5 mg/l

Acute toxicity to algae/aquatic plants

EbC50, Algae, 72 Hour, 97.7 mg/l

Persistence and degradability**Buprofezin**

Biodegradability: Chemical degradation (hydrolysis) is expected in the environment.

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 2.39 Hour

Method: Estimated.

Propylene glycol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

Biodegradation: 81 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

Biodegradation: 96 %

Exposure time: 64 d

Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.68 mg/mg

Chemical Oxygen Demand: 1.53 mg/mg

| Incubation Time | BOD |
|-----------------|--------|
| 5 d | 69.0 % |
| 10 d | 70.0 % |
| 20 d | 86.0 % |

Photodegradation

Atmospheric half-life: 10 Hour

Method: Estimated.

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential**Buprofezin**

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

Partition coefficient: n-octanol/water (log Pow): 4.3 at 20 °C Measured

Bioconcentration factor (BCF): 537 Lepomis macrochirus (Bluegill sunfish) 14 d Measured

Propylene glycol

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

Partition coefficient: n-octanol/water (log Pow): -1.07 Measured

Bioconcentration factor (BCF): 0.09 Estimated.

Balance

Bioaccumulation: No relevant data found.

Mobility in Soil**Buprofezin**

Potential for mobility in soil is slight (Koc between 2000 and 5000).

Partition coefficient (Koc): 2150 - 5741

Propylene glycol

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.

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

Partition coefficient (Koc): < 1 Estimated.

Balance

No relevant data found.

Results of PBT and vPvB assessment**Buprofezin**

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

Propylene glycol

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**Buprofezin**

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

Propylene glycol

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.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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

SECTION 14: TRANSPORT INFORMATION

ADG

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

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

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

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

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.

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.

SECTION 15: REGULATORY INFORMATION

Poison Schedule: S5**APVMA Approval Number:** 51547

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision

Identification Number: 101203288 / A143 / Issue Date: 6.01.2021/ Replaces: 28.11.2019

Sections amended: 1, 15, 16

Legend

| | |
|---------|--|
| AU OEL | Australia. Workplace Exposure Standards for Airborne Contaminants. |
| Dow IHG | Dow Industrial Hygiene Guideline |
| TWA | Time weighted average |
| US WEEL | USA. Workplace Environmental Exposure Levels (WEEL) |

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

CORTEVA AGRISCIENCE AUSTRALIA 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.

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