

Product name: ACCESS™ Herbicide**Issue Date:** 07.11.2019

DOW AGROSCIENCES AUSTRALIA LIMITED 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. actions.

SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product name: ACCESS™ Herbicide**Recommended use of the chemical and restrictions on use****Identified uses:** End use herbicide product**COMPANY IDENTIFICATION**

DOW AGROSCIENCES AUSTRALIA LIMITED
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

Flammable liquids - Category 4
Acute toxicity - Category 4 - Oral
Skin corrosion/irritation - Category 2
Skin sensitisation - Category 1
Carcinogenicity - Category 2
Specific target organ toxicity - repeated exposure - Category 2
Aspiration hazard - Category 1
Acute aquatic toxicity - Category 1
Chronic aquatic toxicity - Category 1

GHS label elements**Hazard pictograms**



Signal word: **DANGER!**

Hazard statements

Combustible liquid.

Harmful if swallowed.

May be fatal if swallowed and enters airways.

Causes skin irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause damage to organs (Kidney) through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

Obtain special instructions before use.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Avoid release to the environment.

Wear protective gloves/ eye protection/ face protection.

Use personal protective equipment as required.

Response

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

IF exposed or concerned: Get medical advice/ attention.

Do NOT induce vomiting.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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
Triclopyr-2-butoxyethyl ester	64700-56-7	31.07%
Picloram isooctyl esters	26952-20-5	16.36%
Heavy aromatic naphtha	64742-94-5	> 30.0 - < 40.0 %
Naphthalene	91-20-3	< 5.0 %
1,2,4-Trimethylbenzene	95-63-6	< 5.0 %
Picloram	1918-02-1	< 1.0 %
Balance	Not available	<= 10.4 %

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. If breathing is difficult, oxygen should be administered by qualified personnel.

Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. 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: 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: Maintain adequate ventilation and oxygenation of the patient. The decision of whether to induce vomiting or not should be made by a 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. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. 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. Repeated excessive exposure may aggravate preexisting lung disease. Skin contact may aggravate preexisting dermatitis.

SECTION 5: FIREFIGHTING MEASURES

Hazchem Code: ●2X

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water fog, applied gently may be used as a blanket for fire extinguishment.

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: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. 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. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. 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. 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 away from heat, sparks and flame. Keep out of reach of children. Do not swallow. Containers, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. 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
Triclopyr-2-butoxyethyl ester	Dow IHG	TWA	2 mg/m ³ SKIN, DSEN, BEI
Heavy aromatic naphtha	Dow IHG	TWA	100 mg/m ³
	Dow IHG	STEL	300 mg/m ³
Naphthalene	ACGIH	TWA	10 ppm SKIN
	Dow IHG	TWA	10 ppm SKIN
	Dow IHG	STEL	15 ppm SKIN
	AU OEL	TWA	52 mg/m ³ 10 ppm
	AU OEL	STEL	79 mg/m ³ 15 ppm
1,2,4-Trimethylbenzene	ACGIH	TWA	25 ppm
	AU OEL	TWA	123 mg/m ³ 25 ppm
Picloram	ACGIH	TWA	10 mg/m ³
	AU OEL	TWA	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: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton.

When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to AS/NZS 2161.10) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, 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 vapor 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	Brown
Odour	Aromatic
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)	183 - 210 °C Solvent
Flash point - closed cup	73 °C
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	No data available
Lower explosion limit	0.9 % vol <i>Literature</i>
Upper explosion limit	6.0 % vol <i>Literature</i>
Vapour Pressure	375 mmHg at 38 °C Solvent
Relative Vapour Density (air = 1)	No data available
Relative Density (water = 1)	1.07 at 20 °C
Water solubility	Insoluble
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	1.074 g/ml
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 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. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

Incompatible materials: Avoid contact with: Acids. Bases. 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. Hydrogen chloride. Nitrogen 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

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s): LD50, Rat, 1,400 mg/kg Estimated.

Acute dermal toxicity

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

As product: The dermal LD50 has not been determined.

Based on information for component(s): LD50, Rabbit, > 5,000 mg/kg Estimated.

Acute inhalation toxicity

Prolonged excessive exposure to mist may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause central nervous system effects. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Signs and symptoms of excessive exposure may include:

Sweating. Nausea and/or vomiting.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

May cause drying and flaking of the skin.

Serious eye damage/eye irritation

May cause moderate eye irritation.

Corneal injury is unlikely.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization

For the active ingredient(s):

Has caused allergic skin reactions when tested in guinea pigs.

For the minor component(s):

Skin contact may cause an allergic skin reaction in a small proportion of individuals.

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): Triclopyr butoxyethyl ester.

For similar active ingredient(s). Picloram. In animals, effects have been reported on the following organs: Liver. Gastrointestinal tract. Kidney.

For the solvent(s): In animals, effects have been reported on the following organs:

Gastrointestinal tract. Thyroid. Urinary tract. Lung.

Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

For the minor component(s) Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapour or dust. Ingestion of naphthalene by humans has caused hemolytic anemia.

Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.

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

Respiratory tract.

Carcinogenicity

Contains naphthalene which has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

For similar active ingredient(s). Triclopyr. Picloram. Did not cause cancer in laboratory animals.

Teratogenicity

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

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

Reproductive toxicity

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

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

For the minor component(s): Studies in laboratory animals indicate that diethylene glycol monoethyl ether (DEGEE) is not a reproductive toxicant even when given in large amounts (a few percent in the drinking water). However, at the highest doses, it caused some toxic effects in offspring of treated animals: increased liver weight, decreased brain weight, reduced sperm motility.

Mutagenicity

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative. For the minor component(s): In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Aspiration Hazard

May be fatal if swallowed and enters airways.

COMPONENTS INFLUENCING TOXICOLOGY:**Triclopyr-2-butoxyethyl ester****Acute inhalation toxicity**

Prolonged exposure is not expected to cause adverse effects. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

LC50, Rat, 4 Hour, dust/mist, > 4.8 mg/l The LC50 value is greater than the Maximum Attainable Concentration.

Picloram isooctyl esters**Acute inhalation toxicity**

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

LC50, Rat, male and female, 4 Hour, dust/mist, > 0.35 mg/l The LC50 value is greater than the Maximum Attainable Concentration. No deaths occurred at this concentration.

Heavy aromatic naphtha**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 4.8 mg/l

LC50, Rat, 4 Hour, vapour, > 0.2 mg/l No deaths occurred following exposure to a saturated atmosphere.

Naphthalene**Acute inhalation toxicity**

Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Excessive exposure may cause lung injury. Signs and symptoms of excessive exposure may include: Headache. Confusion. Sweating. Nausea and/or vomiting.

LC50, Rat, 4 Hour, vapour, > 0.41 mg/l The LC50 value is greater than the Maximum Attainable Concentration.

1,2,4-Trimethylbenzene**Acute inhalation toxicity**

Prolonged excessive exposure may cause serious adverse effects, even death. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause central nervous system effects. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

LC50, Rat, 4 Hour, vapour, 18 mg/l

Picloram**Acute inhalation toxicity**

Vapors are unlikely due to physical properties. Prolonged excessive exposure to dust may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

LC50, Rat, male and female, 4 Hour, dust/mist, > 0.035 mg/l. Maximum attainable concentration. No deaths occurred at this concentration.

Balance**Acute inhalation toxicity**

The LC50 has not been determined.

SECTION 12: ECOLOGICAL INFORMATION

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

Ecotoxicity**Triclopyr-2-butoxyethyl ester****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, *Lepomis macrochirus* (Bluegill sunfish), flow-through test, 96 Hour, 0.36 mg/l

LC50, Fish, 96 Hour, 0.310 mg/l

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), 48 Hour, 2.9 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

ErC50, *Pseudokirchneriella subcapitata* (green algae), 96 Hour, Growth rate inhibition, > 3.00 mg/l, OECD Test Guideline 201

ErC50, *Myriophyllum spicatum*, 14 d, 0.0473 mg/l

NOEC, *Myriophyllum spicatum*, 14 d, 0.00722 mg/l

Chronic toxicity to fish

NOEC, Rainbow trout (*Oncorhynchus mykiss*), 0.0263 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna* (Water flea), 21 d, number of offspring, 1.6 mg/l

LOEC, *Daphnia magna* (Water flea), 21 d, number of offspring, 5.1 mg/l

MATC (Maximum Acceptable Toxicant Level), *Daphnia magna* (Water flea), 21 d, number of offspring, 2.9 mg/l

Toxicity to Above Ground Organisms

Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

Material is slightly toxic to birds on a dietary basis (LC50 between 1001 and 5000 ppm).

oral LD50, *Colinus virginianus* (Bobwhite quail), 21 d, 735mg/kg bodyweight.

dietary LC50, *Colinus virginianus* (Bobwhite quail), 8 d, 1890mg/kg diet.

oral LD50, *Apis mellifera* (bees), 48 Hour, mortality, > 110µg/bee

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

Toxicity to soil-dwelling organisms

LC50, *Eisenia fetida* (earthworms), 14 d, > 1,042 mg/kg

Picloram isooctyl esters**Acute toxicity to fish**

For similar active ingredient(s). Picloram. 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).

For similar active ingredient(s). LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, 8.8 mg/l

Acute toxicity to aquatic invertebrates

For similar active ingredient(s). EC50, *Daphnia magna*, 48 Hour, 44.2 mg/l

Acute toxicity to algae/aquatic plants

For similar material(s): ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 78.7 mg/l

For similar material(s): EC50, Lemna gibba, Growth inhibition, 14 d, 102 mg/l

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

As product: dietary LC50, Colinus virginianus (Bobwhite quail), 8 d, > 5620mg/kg diet.

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

1,2,4-Trimethylbenzene**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, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 7.7 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 3.6 mg/l

Picloram**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), static test, 96 Hour, 8.8 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 44.2 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 78.7 mg/l

EC50, Lemna gibba, Growth inhibition, 14 d, 102 mg/l

ErC50, Myriophyllum spicatum, 14 d, 0.558 mg/l
NOEC, Myriophyllum spicatum, 14 d, 0.0095 mg/l

Toxicity to bacteria

EC50, activated sludge, 3 Hour, > 100 mg/l

Chronic toxicity to fish

Rainbow trout (Oncorhynchus mykiss), flow-through test, 70 d, 0.55 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), static test, 21 d, number of offspring, 6.79 mg/l
LOEC, Daphnia magna (Water flea), static test, 21 d, number of offspring, 13.5 mg/l
MATC (Maximum Acceptable Toxicant Level), Daphnia magna (Water flea), static test, 21 d, number of offspring, 9.57 mg/l

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
oral LD50, Anas platyrhynchos (Mallard duck), 14 d, > 2510mg/kg bodyweight.
dietary LC50, Anas platyrhynchos (Mallard duck), > 5000mg/kg diet.
contact LD50, Apis mellifera (bees), 48 Hour, > 100micrograms/bee
oral LD50, Apis mellifera (bees), 48 d, > 74micrograms/bee

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, survival, > 5,000 mg/kg

Balance**Acute toxicity to fish**

No relevant data found.

Persistence and degradability**Triclopyr-2-butoxyethyl ester**

Biodegradability: Chemical degradation (hydrolysis) is expected in the environment. Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

Biodegradation: 18 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

Theoretical Oxygen Demand: 1.39 mg/mg

Stability in Water (1/2-life)

Hydrolysis, half-life, 8.7 d, pH 7, Half-life Temperature 25 °C

Photodegradation

Atmospheric half-life: 5.6 Hour

Method: Estimated.

Picloram isooctyl esters

Biodegradability: For similar active ingredient(s). Picloram. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do

not necessarily mean that the material is not biodegradable under environmental conditions. Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Stability in Water (1/2-life): Hydrolysis, half-life, 38.7 d, pH 7, Half-life Temperature 25 °C

Photodegradation

Test Type: Half-life (direct photolysis)

Atmospheric half-life: 70.6 min

Method: Measured

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)

Sensitizer: OH radicals

Atmospheric half-life: 5.9 Hour

Method: Estimated.

1,2,4-Trimethylbenzene

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 4 - 18 %

Exposure time: 28 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 3.19 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 0.641 d

Method: Estimated.

Picloram

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. Biodegradation may occur under aerobic conditions (in the presence of oxygen). Surface photodegradation is expected with exposure to sunlight.

10-day Window: Fail

Biodegradation: 1.95 %
Exposure time: 28 d
Method: OECD Test Guideline 301

Stability in Water (1/2-life): Hydrolysis, half-life, > 1.8 year, pH 5 - 9, Half-life Temperature 45 °C, Measured

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 12.5 Hour

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential

Triclopyr-2-butoxyethyl ester

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

Partition coefficient: n-octanol/water (log Pow): 4.62

Bioconcentration factor (BCF): 110 Fish

Picloram isooctyl esters

Bioaccumulation: No data available for this product. For the active ingredient(s): Picloram.
Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

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): 3.3 Measured

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

1,2,4-Trimethylbenzene

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

Partition coefficient: n-octanol/water (log Pow): 3.63 Measured

Bioconcentration factor (BCF): 33 - 275 Cyprinus carpio (Carp) 56 d Measured

Picloram

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

Partition coefficient: n-octanol/water (log Pow): -1.92

Bioconcentration factor (BCF): 0.54 Lepomis macrochirus (Bluegill sunfish)

Balance

Bioaccumulation: No relevant data found.

Mobility in Soil**Triclopyr-2-butoxyethyl ester**

Calculation of meaningful sorption data was not possible due to very rapid degradation in the soil.
For the degradation product: Triclopyr. Potential for mobility in soil is very high (Koc between 0 and 50).

Picloram isooctyl esters

For the active ingredient(s): Picloram. Potential for mobility in soil is very high (Koc between 0 and 50).

Heavy aromatic naphtha

No relevant data found.

Naphthalene

Potential for mobility in soil is medium (Koc between 150 and 500).

Partition coefficient (Koc): 240 - 1300 Measured

1,2,4-Trimethylbenzene

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

Partition coefficient (Koc): 720 Estimated.

Picloram

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

Partition coefficient (Koc): 35

Balance

No relevant data found.

Results of PBT and vPvB assessment**Triclopyr-2-butoxyethyl ester**

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).

Picloram isooctyl esters

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

Heavy aromatic naphtha

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

Naphthalene

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

1,2,4-Trimethylbenzene

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).

Picloram

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**Triclopyr-2-butoxyethyl ester**

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

Picloram isooctyl esters

No relevant data found.

Heavy aromatic naphtha

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

Naphthalene

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

1,2,4-Trimethylbenzene

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

Picloram

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

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

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Triclopyr, Naphthalene)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Triclopyr, Naphthalene
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

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

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 packagings 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: S6**APVMA Approval Number:** 46640**Australia Inventory of Chemical Substances (AICS)**

The product is used in a biocide/pesticide application and is subject to the applicable regulation. It contains a component exempt from inventory listing requirements. Because an intentional component of the product is not on the inventory, the product may only be used in the exempt application.

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision

Identification Number: 101191949 / A143 / Issue Date: 07.11.2019/ Replaces: 12.01.2017

DAS Code: IWD-4460

Sections amend: 1, 14**Legend**

ACGIH	USA. American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV)
AU OEL	Australia. Workplace Exposure Standards for Airborne Contaminants.
Dow IHG	Dow Industrial Hygiene Guideline
SKIN	Absorbed via skin
SKIN, DSEN, BEI	Absorbed via Skin, Skin Sensitizer, Biological Exposure Indices
STEL	Short term exposure limit
TWA	Time weighted average

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