

SAFETY DATA SHEET



1. Identification

Product identifier	Barricade® 'S' Cattle Dip and Spray
Other means of identification	
Synonyms	Barricade®
Recommended use of the chemical and restrictions on use	
Recommended use	Veterinary antiparasitic / insecticide
Restrictions on use	Not for human use
Details of manufacturer or importer	
Company Name (AU)	Zoetis Australia Pty Ltd ABN 94 156 476 425 Level 6, 5 Rider Boulevard Rhodes NSW 2138 AUSTRALIA
Tel	1800 814 883
Fax	(02) 8876 0444
Email	australia.animalhealth@zoetis.com
Emergency Phone	1800 814 883 (all hours)
Police and Fire Brigade	Dial 000
If ineffective	Dial Poisons Information Centre (13 1126 from anywhere in Australia)

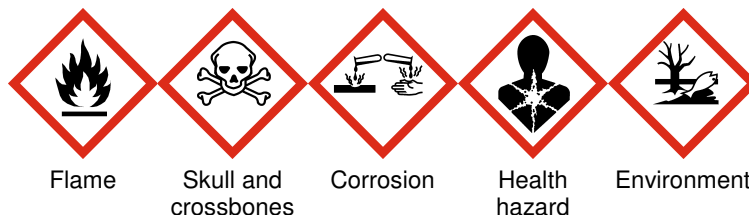
2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Flammable liquids	Category 3
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 2
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	Specific target organ toxicity following single exposure	Category 2 (nervous system)
	Specific target organ toxicity following repeated exposure	Category 2 (nervous system, Adrenal gland, digestive organs)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

Label elements, including precautionary statements

Hazard symbol(s)



Signal word Danger

Hazard statement(s) Flammable liquid and vapour. Toxic if swallowed. Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Fatal if inhaled. May cause damage to organs (nervous system). May cause damage to organs (nervous system, Adrenal gland, digestive organs) through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe vapour. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing. Wear protective gloves/eye protection/face protection. Wear respiratory protection.

Response

Get medical advice/attention if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison centre/doctor. If skin irritation or rash occurs: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTRE or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician. In case of fire: Use appropriate media for extinction. Collect spillage.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification

None known.

Supplemental information

This product contains organophosphate and pyrethroid insecticides. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. May cause lung damage if swallowed. Vomiting of petroleum-containing liquids can result in chemical pneumonitis.

3. Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients (%)
Liquid hydrocarbon	Proprietary	50-60
Chlorfenvinphos	470-90-6	12-18
Calcium dodecylbenzenesulfonate	26264-06-2	5-10
N-Butyl Alcohol	71-36-3	<10
Cypermethrin	52315-07-8	2-5

4. First-aid measures

Description of necessary first aid measures

Inhalation Move to fresh air. For breathing difficulties, oxygen may be necessary. Call a physician or poison control centre immediately.

Skin contact Take off immediately all contaminated clothing. Wash the skin immediately with soap and water. Call a physician or poison control centre immediately. Wash contaminated clothing before reuse.

Eye contact Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. Get medical attention immediately.

Ingestion IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Personal protection for first-aid responders

For personal protection, see section 8 of the SDS. IF exposed or concerned: Get medical advice/attention. Take off immediately all contaminated clothing. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

Symptoms caused by exposure	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause skin irritation. Signs and symptoms might include skin rash, itching, redness or swelling. May cause allergic skin reaction. Rash. Dermatitis. May cause central nervous system effects. Dizziness. Narcosis. Behavioural changes. Decrease in motor functions. Effects of organophosphate exposure include tightness in chest, difficulty breathing, wheezing, increased tearing and salivation, sweating, frequent urination, constriction of pupils, nausea, vomiting, abdominal cramps, diarrhea, fatigue, weakness, involuntary twitching, pallor, decreased heart rate, and decreased blood pressure. Additional nervous system effects include headache, restlessness, slurred speech, tremors, loss of reflexes, and incoordination. Gross overexposure may result in convulsions, seizures, coma, or death due to respiratory failure. Effects can be immediate or delayed. Pyrethroids can cause seizures and parasthesia (i.e. stinging, burning, itching, tingling, and numbness) of the face, hands, arms, forearms, and neck which may be worsened by contact with moisture and water. Other signs and symptoms of exposure include dizziness, salivation, headache, fatigue, vomiting, diarrhea, and irritability to sound and touch. Pyrethroids may cause sensitization and allergic reactions. Effects may be immediate or delayed.
Medical attention and special treatment	This product contains organophosphate and pyrethroid insecticides. Monitor respiratory, cardiac and central nervous system. Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Flammable liquid and vapour. Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire fighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Hazchem Code

3W

General fire hazards

Flammable liquid - may release vapours that form flammable mixtures at or above the flash point. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Fine particles (such as mists) may fuel fires/explosions. Flammable Category 3 (GHS); Flammable (AS1940)

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unnecessary personnel away. Ensure adequate ventilation. Ventilate the contaminated area. Do not breathe mist or vapour. Do not get in eyes, on skin, or on clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up

Ensure adequate ventilation. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Use water spray to reduce vapours or divert vapour cloud drift. Ground container and transfer equipment to eliminate static electric sparks. Avoid release to the environment. Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean surface thoroughly to remove residual contamination.

Small Spills: Absorb spillage with non-combustible, absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling

Flammable liquid and vapour. Very toxic. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Should be handled in closed systems, if possible. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground container and transfer equipment to eliminate static electric sparks. Use non-sparking tools when opening or closing containers. Do not breathe mist or vapour. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Use this product with adequate ventilation. Use only outdoors or in a well-ventilated area. Wear personal protective equipment. Wash thoroughly after handling. Avoid release to the environment. Do not empty into drains. Observe good industrial hygiene practices. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a place accessible by authorised persons only. Store in tightly closed original container in a dry, cool and well-ventilated place. < 30C/86F. Do not store in direct sunlight. Do not allow material to freeze. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Keep in an area equipped with sprinklers. Use appropriate container to avoid environmental contamination. Store away from incompatible materials (see Section 10 of the SDS). Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

8. Exposure controls and personal protection

Control parameters

Follow standard monitoring procedures.

Occupational exposure limits

Zoetis

Components

Cypermethrin (CAS 52315-07-8)

Type

TWA

Value

80 µg/m³

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components

N-Butyl Alcohol (CAS 71-36-3)

Type

Ceiling

Value

152 mg/m³

50 ppm

US. ACGIH Threshold Limit Values

Components

N-Butyl Alcohol (CAS 71-36-3)

Type

TWA

Value

20 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components

N-Butyl Alcohol (CAS 71-36-3)

Type

STEL

Value

154 mg/m³

50 ppm

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value
N-Butyl Alcohol (CAS 71-36-3)	TWA	310 mg/m ³ 100 ppm

Biological limit values

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling time
N-Butyl Alcohol (CAS 71-36-3)	2 mg/g	1-Butanol (nach Hydrolyse)	Creatinine in urine	*
	10 mg/g	1-Butanol (nach Hydrolyse)	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Australia OELs: Skin designation

N-Butyl Alcohol (CAS 71-36-3) Can be absorbed through the skin.

Control banding approach Chlorfenvinphos: Zoetis OEB 4 - Skin (control exposure to the range of >1ug/m³ to <10ug/m³, provide additional precautions to protect from skin contact)

Appropriate engineering controls Ensure adequate ventilation, especially in confined areas. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Keep air contamination levels below the exposure limits or within the OEB range listed above in this section. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection Chemical goggles and face shield are recommended.

Skin protection

Hand protection Impervious gloves. Wear impervious, disposable gloves as minimum protection (double recommended). Suitable gloves can be recommended by the glove supplier.

Other Avoid exposure - obtain special instructions before use. Wear appropriate chemical resistant clothing. Wear impervious protective clothing to prevent skin contact - consider use of disposable clothing where appropriate.

Respiratory protection Avoid exposure - obtain special instructions before use. In case of insufficient ventilation, wear suitable respiratory equipment. Respiratory protection should be provided in instances where exposure to dust, mists, aerosols or vapors are likely. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range. Chemical respirator with organic vapour cartridge, full facepiece, dust and mist filter. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Do not get in eyes, on skin, on clothing. When using, do not eat, drink or smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace. Strict control of access to the working area is essential.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Colour	Amber.
Odour	Not available.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	55.0 °C (131.0 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	emulsifiable
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other physical and chemical parameters	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Specific gravity	0.95

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Keep away from heat, spark, open flames and other sources of ignition. Protect from sunlight.
Incompatible materials	Strong oxidising agents. Strong acids. Bases. Combustible material.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Carbon oxides. Nitrogen oxides (NOx). Oxides of phosphorus. Chlorine compounds. May include hydrogen chloride.

11. Toxicological information

Information on possible routes of exposure

Inhalation	Fatal if inhaled. May cause damage to organs by inhalation.
Skin contact	Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction. May be absorbed through the skin and cause systemic effects.
Calcium dodecylbenzenesulfonate	Severity: Moderate
Chlorfenvinphos	Species: Guinea Pig Severity: Non-irritating

Skin contact

Chlorfenvinphos

Species: Rabbit
Severity: Non-irritating

Cypermethrin

Species: Rabbit
Severity: Slight**Eye contact**

Calcium dodecylbenzenesulfonate

Causes serious eye damage.

Severity: Severe

Ingestion

Toxic if swallowed. May cause lung damage if swallowed. Vomiting of petroleum-containing liquids can result in chemical pneumonitis.

Symptoms related to exposure

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. May cause central nervous system effects. Narcosis. Behavioural changes. Decrease in motor functions. Dizziness. Effects of organophosphate exposure include tightness in chest, difficulty breathing, wheezing, increased tearing and salivation, sweating, frequent urination, constriction of pupils, nausea, vomiting, abdominal cramps, diarrhea, fatigue, weakness, involuntary twitching, pallor, decreased heart rate, and decreased blood pressure. Additional nervous system effects include headache, restlessness, slurred speech, tremors, loss of reflexes, and incoordination. Gross overexposure may result in convulsions, seizures, coma, or death due to respiratory failure. Effects can be immediate or delayed. Pyrethroids can cause seizures and parasthesia (i.e. stinging, burning, itching, tingling, and numbness) of the face, hands, arms, forearms, and neck which may be worsened by contact with moisture and water. Other signs and symptoms of exposure include dizziness, salivation, headache, fatigue, vomiting, diarrhea, and irritability to sound and touch. Pyrethroids may cause sensitization and allergic reactions. Effects may be immediate or delayed.

Acute toxicity

Fatal if inhaled. Toxic in contact with skin. Toxic if swallowed. May cause an allergic skin reaction.

Product**Species****Test results**

Barricade® 'S' Cattle Dip and Spray

Acute**Dermal**

LD50

Rat

220 mg/kg (Calculated ATE)

Inhalation

LC50

Rat

0.35 mg/l (Calculated ATE)

Oral

LD50

Rat

70 mg/kg (Calculated ATE)

Components**Species****Test results**

Chlorfenvinphos (CAS 470-90-6)

Acute**Dermal**

LD50

Rat

31 - 108 mg/kg
31 mg/kg**Inhalation**

LC50

Rat

0.05 mg/l, 4 Hours

Oral

LD50

Rat

10 mg/kg

Chronic**Oral**

LOEL

Rat

0.5 mg/kg/day, 2 years Cholinesterase inhibition

NOEL

Mouse

0.15 mg/kg/day, 90 weeks Cholinesterase inhibition

Subacute**Dermal**

NOEL

Guinea Pig

0.1 mg/kg/day, 14 days Cholinesterase inhibition

Components	Species	Test results
<u>Subchronic</u>		
Oral		
NOAEL	Rat	0.05 mg/kg/day, 12 weeks Cholinesterase inhibition
Cypermethrin (CAS 52315-07-8)		
<u>Acute</u>		
Dermal		
LD50	Rat	1600 mg/kg
Inhalation		
LC50	Rat	2.5 mg/l, 4 hours
Oral		
LD50	Mouse	82 - 779 mg/kg
	Rat	4123 mg/kg (in water) 250 mg/kg (in corn oil)
<u>Chronic</u>		
Oral		
LOEL	Rat	750 ppm, 5 weeks (Target organ(s): Central Nervous System)
NOAEL	Dog	1 mg/kg/day, 52 weeks (Target organ(s): Gastrointestinal System, Central nervous system)
N-Butyl Alcohol (CAS 71-36-3)		
<u>Acute</u>		
Oral		
LD50	Rat	790 mg/kg
Skin corrosion/irritation Causes skin irritation.		
Corrosivity		
Chlorfenvinphos		Species: Guinea pig Severity: Non-irritating
		Species: Rabbit Severity: Non-irritating
Cypermethrin		Species: Rabbit Severity: Slight
Serious eye damage/irritation Causes serious eye damage.		
Eye contact		
Calcium dodecylbenzenesulfonate		Severity: Severe
Respiratory or skin sensitisation		
Respiratory sensitisation Not a respiratory sensitizer.		
Skin sensitisation May cause an allergic skin reaction.		
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.		
Mutagenicity		
Chlorfenvinphos		Chromosome Aberration Result: negative Species: Hamster Bone marrow
		Dominant Lethal Assay Result: negative Species: Mouse

Mutagenicity
Chlorfenvinphos

In Vitro Bacterial Mutagenicity (Ames)
Result: negative
Species: Salmonella , E. coli

Carcinogenicity

Due to partial or complete lack of data the classification is not possible.

Reproductive toxicity

Due to partial or complete lack of data the classification is not possible.

Developmental effects

Chlorfenvinphos

3 mg/kg/day Embryo / Fetal Development, Not Teratogenic
Result: NOEL
Species: Rat
Organ: Oral

Cypermethrin

8 mg/kg Embryo / Fetal Development, Not teratogenic
Result: NOAEL
Species: Rat
Organ: Oral

Reproductivity

Chlorfenvinphos

0.05 mg/kg/day 2 Generation Reproductive Toxicity,
Embryotoxicity
Result: NOAEL
Species: Rat
Organ: Oral

Specific target organ toxicity - single exposure

May cause damage to organs (nervous system).

Specific target organ toxicity - repeated exposure

May cause damage to organs (nervous system, Adrenal gland, digestive organs) through prolonged or repeated exposure.

Aspiration hazard

Due to partial or complete lack of data the classification is not possible.

Chronic effects

May cause damage to organs through prolonged or repeated exposure.

Other information

This product contains organophosphate and pyrethroid insecticides. Danger of very serious irreversible effects. Avoid exposure - obtain special instructions before use.

12. Ecological information

Ecotoxicity

Very toxic to aquatic life with long lasting effects. Avoid release to the environment.

Components

Species

Test results

Chlorfenvinphos (CAS 470-90-6)

EC50	Daphnia magna (Water Flea)	0.0003 mg/l, 48 Hours
LC50	Oncorhynchus mykiss (Rainbow Trout)	0.1 mg/l, 96 Hours

Aquatic

Fish

LC50	Bluegill (Lepomis macrochirus)	0.017 - 0.031 mg/l, 96 hours
	Fish	0.039 mg/l, 96 Hours (Tilapia)
		0.025 mg/l, 96 Hours (Carp)

Cypermethrin (CAS 52315-07-8)

LC50	Oncorhynchus mykiss (Rainbow Trout)	0.055 mg/l, 24 Hours
	Salmo salar (Atlantic salmon)	0.0014 - 0.012 mg/l, 96 Hours

Aquatic

Fish

LC50	Carp (Cyprinus carpio)	0.0006 - 0.0028 mg/l, 96 hours
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N-Butyl Alcohol (CAS 71-36-3)

Aquatic

Crustacea

EC50	Water flea (Daphnia magna)	1897 - 2072 mg/l, 48 hours
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Fish

LC50	Bluegill (Lepomis macrochirus)	100 - 500 mg/l, 96 hours
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Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
Chlorfenvinphos	3.82
Cypermethrin	5

Mobility in soil	No data available for this product.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods	Avoid release to the environment. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater. Dispose of contents/container in accordance with local/regional/national/international regulations. Contract with a disposal operator licensed by the Law on Disposal and Cleaning.
Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG

UN number	3017
UN proper shipping name	Organophosphorus pesticide, liquid, toxic, flammable (Chlorfenvinphos, N-Butyl Alcohol)
Transport hazard class(es)	
Class	6.1
Subsidiary risk	3
Packing group	III
Environmental hazards	Not available.
Hazchem Code	3W
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

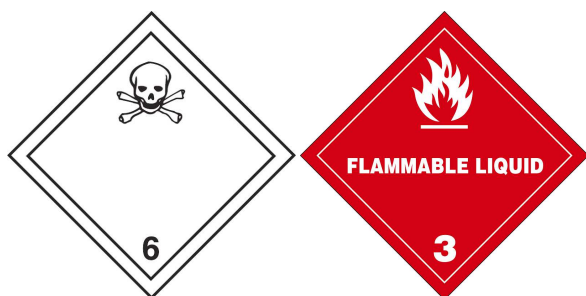
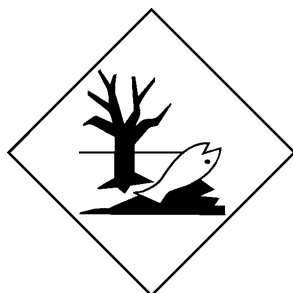
UN number	3017
UN proper shipping name	Organophosphorus pesticide, liquid, toxic, flammable (Chlorfenvinphos, N-Butyl Alcohol)
Transport hazard class(es)	
Class	6.1
Subsidiary risk	3
Packing group	III
Environmental hazards	Yes (Chlorfenvinphos, Cypermethrin)
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	3017
UN proper shipping name	Organophosphorus pesticide, liquid, toxic, flammable (Chlorfenvinphos, N-Butyl alcohol)
Transport hazard class(es)	
Class	6.1
Subsidiary risk	3
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	3017
UN proper shipping name	Organophosphorus pesticide, liquid, toxic, flammable (Chlorfenvinphos, N-Butyl alcohol), MARINE POLLUTANT (Chlorfenvinphos, Cypermethrin)

Transport hazard class(es)**Class** 6.1**Subsidiary risk** 3**Packing group** III**Environmental hazards****Marine pollutant** Yes**EmS** Not available.**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.**ADG****IATA; IMDG; RID****Marine pollutant****General information**

IMDG Regulated Marine Pollutant. Marine pollutant requirements apply only to quantities >5 Liters for liquids / >5 Kilograms for solids (per inner package) when shipped as per IMDG or ADR (effective year 2015 or greater) regulations. Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

15. Regulatory information**Safety, health and environmental regulations****National regulations**

This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (23/12/2011).

APVMA No. 45211

Poison Schedule (Product) – Schedule 7

Australia Medicines & Poisons Appendix E

N-Butyl Alcohol (CAS 71-36-3)

Australia Medicines & Poisons Appendix F

N-Butyl Alcohol (CAS 71-36-3)

Australia Medicines & Poisons Schedule 5

CYPERMETHRIN (CAS 52315-07-8)

N-Butyl Alcohol (CAS 71-36-3)

Australia Medicines & Poisons Schedule 6

N-Butyl Alcohol (CAS 71-36-3)

ZETA-CYPERMETHRIN (CAS 52315-07-8)

Australia Medicines & Poisons Schedule 7

CHLORFENVINPHOS (CAS 470-90-6)

ZETA-CYPERMETHRIN (CAS 52315-07-8)

High Volume Industrial Chemicals (HVIC)

Liquid hydrocarbon (CAS Proprietary)

1000 - 9999 TONNES See the regulation for additional information.

N-Butyl Alcohol (CAS 71-36-3)

1000 - 9999 TONNES See the regulation for additional information.

Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Cypermethrin (CAS 52315-07-8)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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Key abbreviations or acronyms used ATE: Acute Toxicity Estimate according to REGULATION (EC) No 1272/2008 (CLP).

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Revision information Transport Information: Material Transportation Information
Regulatory Information: Other
Regulatory information: National regulations