

## Section 1 - Identification of Chemical Product and Company

**Intervet Australia Pty Limited**  
91-105 Harpin Street  
Bendigo East, Vic 3550, AUSTRALIA  
Company ABN: 79 008 467 034

**Tel: 1 800 033 461**  
**Fax: 1 800 817 414**

**Substance:** Chlorfenvinphos is an organophosphorus compound; Cypermethrin is a pyrethroid.  
**Trade Name:** **Coopers Blockade Cattle Dip and Spray**  
**Recommended Use:** Dip and spray for the control of cattle tick and buffalo fly on cattle for use as described on the product label.  
**APVMA No:** 46815  
**This version issued:** is valid for 5 years from this date.

## Section 2 - Hazards Identification

### Statement of Hazardous Nature:

**This product is classified as:** Xi, Irritating. T, Toxic. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Dangerous according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** R28, R41, R43, R20/21, R37/38, R50/53. Very toxic if swallowed. Risk of serious damage to eyes. May cause sensitisation by skin contact. Harmful by inhalation and in contact with skin. Irritating to respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

**Safety Phrases:** S20, S23, S26, S28, S38, S45, S60, S61, S1/2, S24/25, S36/37. When using, do not eat or drink. Do not breathe vapours or mists. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. After contact with skin, wash immediately with plenty of soap and water. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show this MSDS where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. Keep locked up and out of reach of children. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

**SUSDP Classification:** S7

**ADG Classification:** Class 6.1: Toxic Substances.

**UN Number:** 3018, ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC

## Emergency Overview

**Physical Description & Colour:** Straw coloured translucent liquid.

**Odour:** Characteristic odour.

**Major Health Hazards:** Exposure to Chlorfenvinphos causes the classic anticholinesterase symptoms - inhibition of acetylcholinesterase activity results in accumulation of acetylcholine at muscarinic and nicotinic receptors leading to peripheral and central nervous system effects. These effects usually appear within a few minutes to a few hours after exposure depending on the extent of exposure. Product is very toxic if swallowed, may cause serious damage to eyes, harmful by inhalation and in contact with skin, irritating to respiratory system and skin, possible skin sensitiser.

## Potential Health Effects

Persons sensitised to sensitisers identified in Section 11 should avoid contact with this product.

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#### **Inhalation:**

**Short Term Exposure:** Available data shows that this product is harmful, symptoms are described above. In addition product is an inhalation irritant. Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, but they should disappear after exposure has ceased.

**Long Term Exposure:** No data for health effects associated with long term inhalation.

#### **Skin Contact:**

**Short Term Exposure:** Available data shows that this product is harmful, symptoms are described above. In addition product is a skin irritant. Cypermethrin may cause transient tingling, burning sensation or numbness in the facial area. There may be a delay of a few hours between exposure to the chemical and the onset of symptoms.

**Long Term Exposure:** No data for health effects associated with long term skin exposure.

#### **Eye Contact:**

**Short Term Exposure:** This product is a severe eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms such as swelling of eyelids and blurred vision may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment is likely to cause permanent damage.

**Long Term Exposure:** No data for health effects associated with long term eye exposure.

#### **Ingestion:**

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. Available data shows that this product is very toxic, symptoms are described above. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

**Long Term Exposure:** No data for health effects associated with long term ingestion.

#### **Carcinogen Status:**

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

### **Section 3 - Composition/Information on Ingredients**

<b>Ingredients</b>	<b>CAS No</b>	<b>Conc,%</b>	<b>TWA (mg/m<sup>3</sup>)</b>	<b>STEL (mg/m<sup>3</sup>)</b>
Chlorfenvinphos	470-90-6	138g/L	not set	not set
Cypermethrin	52315-07-8	25g/L	not set	not set
Liquid hydrocarbon	secret	486g/L	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### **Section 4 - First Aid Measures**

#### **General Information:**

**You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 11 26 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.**

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**Inhalation:** If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

**Skin Contact:** Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre, or call a doctor at once. Give activated charcoal if instructed.

### Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** This product is classified as a C1 combustible product. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product are likely to be irritating if inhaled.

**Extinguishing Media:** Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

**Flash point:** 105°C

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** C1

### Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC, Nitrile. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. It should be fitted with a type G cartridge, suitable for agricultural chemicals.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Because of the toxicity of this product, special personal care should be taken in any cleanup operation. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal

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by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

### Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 2500kg or L of Dangerous Goods of Packaging Group II, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

### Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:  
Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

<b>SWA Exposure Limits</b>	<b>TWA (mg/m<sup>3</sup>)</b>	<b>STEL (mg/m<sup>3</sup>)</b>
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Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Chlorfenvinphos is set at 0.0005mg/kg/day. The corresponding NOEL is set at 0.05mg/kg/day.

The ADI for Cypermethrin is set at 0.05mg/kg/day. The corresponding NOEL is set at 5mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Taken from Australian ADI List, Dec 2008.

**Ventilation:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**Eye Protection:** Protective glasses or goggles must be worn when this product is being used. Failure to protect your eyes may lead to severe harm to them or to general health. Emergency eye wash facilities must also be available in an area close to where this product is being used.

**Skin Protection:** If you believe you may have a sensitisation to this product or any of its declared ingredients, you should prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber, PVC, nitrile.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

### Section 9 - Physical and Chemical Properties

**Physical Description & Colour:** Straw coloured translucent liquid.

**Odour:** Characteristic odour.

**Boiling Point:** Not available.

**Freezing/Melting Point:** No specific data. Liquid at normal temperatures.

**Volatiles:** No specific data. Expected to be low at 100°C.

**Vapour Pressure:** No data. Expected to be low at normal room temperatures.

**Vapour Density:** No data.

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<b>Specific Gravity:</b>	0.968 at 20°C
<b>Water Solubility:</b>	Emulsifiable.
<b>pH:</b>	No data.
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data. <b>Coeff</b>
<b>Oil/water Distribution:</b>	No data
<b>Autoignition temp:</b>	No data.

### Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** strong acids, strong bases, strong oxidising agents.

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Oxides of phosphorus and other phosphorus compounds. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

### Section 11 - Toxicological Information

**Toxicity:** Exposure to Chlorfenvinphos causes the classic anticholinesterase symptoms - inhibition of acetylcholinesterase activity results in accumulation of acetylcholine at muscarinic and nicotinic receptors leading to peripheral and central nervous system effects. These effects usually appear within a few minutes to a few hours after exposure depending on the extent of exposure. When Chlorfenvinphos was evaluated for acute lethality in animals, death occurred within 12 hours in tested rats, rabbits, and dogs and was usually preceded by the characteristic signs of cholinergic response - salivation, lachrymation, muscle fasciculation, diarrhoea, emesis, tremors, irregular respiration, and prostration.

Chlorfenvinphos is extremely toxic to rodents and dogs by the oral route in acute doses. The oral LD<sub>50</sub> values for rats, rabbits, and dogs have been estimated to be 9.7, 300 and 50.5 mg/kg, respectively.

No studies were located regarding the following health effects in humans or animals after acute-, intermediate-, or chronic-duration inhalation exposure to Chlorfenvinphos: Reproductive Effects, Developmental Effects, Genotoxic Effects, Cancer.

There is no data to hand indicating any particular target organs.

Cypermethrin is Classed by SWA as a potential sensitiser by skin contact.

### Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Chlorfenvinphos	>=7%Conc<25%: T+; R28; R21
Cypermethrin	>=1%Conc<20%: Xi; R43

### Section 12 - Ecological Information

Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

If released to water, moderate adsorption to particulate matter will transport Chlorfenvinphos from the water column and partition it to suspended solids and sediment. Chlorfenvinphos does not appear to partition extensively from water into aquatic organisms.

Biodegradation appears to be the dominant degradation process in natural waters. This is likely, as microbial degradation is the dominant degradation process in soils.

Chlorfenvinphos is most stable in water at ambient temperatures and neutral pH. In laboratory studies, Chlorfenvinphos

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hydrolyzed slowly in water resulting in a half-life (first-order kinetics) of 170 days at pH 6 and 80 days at pH 8, both at 20-30°C.

Hydrolysis was also observed under conditions of high temperature and extreme pH (highly alkaline or highly acidic), resulting in a half-life of >400 hours (>33 days) at pH 9.1, and >700 hours (58 days) at pH 1.1 at 38°C.

Hydrolysis probably does not contribute much to the initial disappearance of Chlorfenvinphos from natural waters. Based on hydrolysis studies conducted at 70°C, and correcting for temperature differences assuming an environmental temperature of 20°C, the aqueous hydrolysis half-life (first-order kinetics) value of Chlorfenvinphos is approximately 1 to 1.3 years.

Direct photolysis of Chlorfenvinphos is negligible, since the compound does not significantly absorb ultraviolet wavelength light >290 nm. No information was found in the literature regarding the photosensitized reaction of Chlorfenvinphos in water with ozone, hydroxyl radicals or singlet oxygen.

### Section 13 - Disposal Considerations

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

### Section 14 - Transport Information

**ADG Code:** 3018, ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC

**Hazchem Code:** 2X

**Special Provisions:** 61, 274

**Limited quantities:** ADG 7 specifies a Limited Quantity value of 100 ml for this class of product.

**Dangerous Goods Class:** Class 6.1: Toxic Substances.

**Packaging Group:** II

**Packaging Method:** P001, IBC02

Class 6 Toxic Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids where the Flammable Liquid is nitromethane), 5.1 (Oxidising Agents where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides where the Toxic Substances are Fire Risk Substances), 8 (Corrosive Substances where the Toxic Substances are cyanides and the Corrosives are acids), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes, 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Toxic Gases), 3 (Flammable liquids, except where the flammable liquid is nitromethane), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents except where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides except where the Toxic Substances are Fire Risk Substances), 7 (Radioactive Substances), 8 (Corrosive Substances except where the Toxic Substances are cyanides and the Corrosives are acids), 9 (Miscellaneous Dangerous Goods)

### Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredients: Chlorfenvinphos, Cypermethrin, Liquid hydrocarbon, are mentioned in the SUSDP.

### Section 16 - Other Information

#### Acronyms:

This MSDS contains only safety-related information. For other data see product literature.

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>CAS number</b>	Chemical Abstracts Service Registry Number

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Issued by: Intervet Australia Pty Limited Phone: 1 800 033 461 (Business Hours)  
Poisons Information Centre: 13 11 26 from anywhere in Australia, (0800 764 766 in New Zealand)

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<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSDP</b>	Standard for the Uniform Scheduling of Drugs & Poisons
<b>UN Number</b>	United Nations Number

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2001(2003)]

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## MATERIAL SAFETY DATA SHEET