

Section 1 - Identification of Chemical Product and Company

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Substance: Propetamphos is an organophosphorus derivative. Note the dichlorobenzene solvent.
Trade Name: Young's Deadmag Blowfly Strike Dressing Fluid
Product Code: 40138
Product Use: For the treatment of blowfly struck sheep.
Creation Date: August, 2005
Revision Date: August, 2005

Section 2 - Hazards Identification**Statement of Hazardous Nature**

This product is classified as: Hazardous according to the criteria of NOHSC Australia.

This product does not meet the criteria of the Australian Dangerous Goods (ADG) Code. However, this is a C1 Combustible Liquid and for storage meets the definition of Dangerous Goods.

Risk Phrases: R65, R20/21/22, R36/37. Harmful: May cause lung damage if swallowed. Harmful by inhalation, in contact with skin, and if swallowed. Irritating to eyes and respiratory system.

Safety Phrases: S20, S23, S38, S45, S46, S24/25, S36/37/39. When using, do not eat or drink. Do not breathe vapours or mists. 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 the label where possible). If swallowed, contact a doctor or Poisons Information Centre immediately and show this container or label. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.

SUSDP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good under the ADG Code.

UN Number: None allocated

Emergency Overview

Physical Description & Colour: Clear, colourless liquid.

Odour: Mild, characteristic odour.

Major Health Hazards: harmful by inhalation, in contact with skin, and if swallowed, irritating to eyes and respiratory system, if aspirated, may cause lung damage. Signs and symptoms associated with mild exposures to organophosphate and carbamate pesticides include: headache, fatigue, dizziness, loss of appetite with nausea, stomach cramps and diarrhoea; blurred vision associated with excessive tearing; contracted pupils of the eye; excessive sweating and salivation; slowed heartbeat, often fewer than 50 per minute; rippling of surface muscles just under the skin. These symptoms may be mistaken for those of flu, heat stroke or heat exhaustion, or upset stomach. Moderately severe organophosphate and carbamate insecticide poisoning cases exhibit all the signs and symptoms found in mild poisonings, but in addition, the victim: is unable to walk; often complains of chest discomfort and tightness; exhibits marked constriction of the pupils (pinpoint pupils); exhibits muscle twitching; has involuntary urination and bowel movement. Severe poisonings are indicated by incontinence, unconsciousness and seizures.

Potential Health Effects

See section 11 for Chronic exposure studies.

Inhalation

Short Term Exposure: Significant inhalation exposure is considered to be unlikely. Symptoms of poisoning are described fully above. Vapours of dichlorobenzene may cause irritation to skin, throat, & eyes. Prolonged exposure to high concentrations may cause weakness, dizziness, loss of weight. Liver injury may develop.

Skin Contact:

Short Term Exposure: Symptoms of organophosphorus poisoning are described fully above. Note that dichlorobenzene may be absorbed through the skin.

Eye Contact:

Short Term Exposure: Exposure via eyes is considered to be unlikely. This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also

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become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Ingestion:

Short Term Exposure: Symptoms are described fully above.

Carcinogen Status:

NOHSC: No significant ingredient is classified as carcinogenic by NOHSC.

NTP: 1,4-dichlorobenzene is classified by NTP as reasonably anticipated to be carcinogenic to humans.

See the NTP website for further details. A web address has not been provided as addresses frequently change.

IARC: 1,4-dichlorobenzene is classed 2b IARC - possibly carcinogenic to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Propetamphos	31218-83-4	14g/L	not set	not set
1,4-dichlorobenzene	106-46-7	400g/L	150	300
Liquid hydrocarbons	64742-94-5	510g/L	not set	not set
Other non hazardous ingredients	secret	100g/L	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 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 should not be exceeded for more than 15 minutes and should not be repeated for 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 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Atropine tablets 0.6mg and activated charcoal should be available in the area where this product is used, or in a nearby unlocked medicine cabinet. If swallowed, splashed on skin or inhaled, contact a Poisons Information Centre or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, use of activated charcoal may be advised. Give atropine if instructed. The usual instruction is to give one atropine tablet every 5 minutes until dryness of the mouth occurs.

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. See instructions above about treatment with atropine.

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. See instructions above about treatment with atropine.

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.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor. See instructions above about treatment with atropine.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: This product is classified as a C1 combustible product. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

Fire decomposition products from this product are likely to be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: Immediately evacuate the area of unnecessary personnel.

Flash point: 64°C (Closed cup)

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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. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. No special recommendations for clothing materials. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, 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 A cartridge, suitable for organic vapours. 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. 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 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: Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. 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**.

Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
1,4-dichlorobenzene	150	300

The ADI for Propetamphos is set at 0.001mg/kg/day. The corresponding NOEL is set at 0.1mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2004.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: 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: PVC.

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

Safety deluge showers should, if practical, be provided near to where this product is being used.

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Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear, colourless liquid.
Odour:	Mild, characteristic odour.
Boiling Point:	Not available. Dichlorobenzene boils at 174°C
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.
Vapour Density:	No data.
Specific Gravity:	1.016
Water Solubility:	Emulsifiable.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data.
Autoignition temp:	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: 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, including, possibly, phosgene which is toxic. 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

Acute toxicity: Propetamphos is toxic via the oral route, with reported oral LD₅₀ values for Propetamphos of 75 to 119 mg/kg in rats. Via the dermal route it is not harmful, with reported acute dermal LD₅₀ values of 2300 to greater than 3100 mg/kg in rats and greater than 10,000 mg/kg in rabbits. The 4-hour inhalation LC₅₀ is greater than 2.04 mg/L in rabbits, indicating slight toxicity via this route.

Chronic toxicity: In a 2-year feeding studies with rats, there were no effects noted at or below a dose of 6 mg/kg in their diets. Available data suggest that Propetamphos does not cause reproductive toxicity, nor is it teratogenic or carcinogenic. Data suggest that Propetamphos is nonmutagenic or weakly mutagenic.

Organ toxicity: The primary target organ affected by Propetamphos is the nervous system.

Fate in humans and animals: Cultured preparations of house fly, cockroach and mouse liver cells all shown the ability to breakdown Propetamphos.

Dichlorobenzene is a possible carcinogen. It may also cause liver and kidney damage.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Liquid Hydrocarbons	Conc>=10%: Xn; R65

Section 12 - Ecological Information

Propetamphos is not generally used in outdoor settings, and thus poses little risk to wildlife.

Effects on aquatic organisms: The compound is highly toxic to fish such as bluegill sunfish and rainbow trout. The LC₅₀ values range from 0.13 mg/L in bluegill and 0.36 mg/L in rainbow trout to 3.7 to 8.8 mg/L in carp (moderately toxic range for carp). Propetamphos may be very highly toxic to aquatic invertebrates, with reported LC₅₀ values ranging between 0.68 µg/L and 14.5 µg/L in Daphnia magna.

Breakdown in water: In water, Propetamphos is rapidly degraded only under extreme pH conditions (acidic or basic), or in the presence of sunlight. No data is available for Propetamphos breakdown in soil, groundwater of vegetation.

1,4-Dichlorobenzene is not expected to biodegrade in soils or water with reported biodegradation half-lives of about a year or longer. In water, 1,4-dichlorobenzene is expected to adsorb to sediment or particulate matter based on its measured K_{oc} values. This compound is expected to volatilize from water surfaces. Estimated volatilization half-lives

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for a model river and model lake are 4 and 120 hours, respectively. Bioconcentration in aquatic organisms is considered moderate to high based on BCF values in the range of 60 to 720 measured in fish.

Section 13 - Disposal Considerations

Disposal: Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Propetamphos, 1,4-dichlorobenzene, Liquid hydrocarbons, are mentioned in the SUSDP.

Section 16 - Other Information

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS	Australian Inventory of Chemical Substances
CAS Number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOHSC	National Occupational Health and Safety Commission
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	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 NOHSC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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