

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name David Grays Thermal Fogging and ULV Mosquito Adulticide Concentrate
Synonym(s) 21672 - MANUFACTURER CODES • Mosquito ULV

1.2 Uses and uses advised against

Use(s) Insecticide; in particular for mosquitoes

1.3 Details of the supplier of the product

Supplier name DAVID GRAY & CO PTY LIMITED
Address 2 Rawlinson St, O'Connor, WA, 6961, AUSTRALIA
Telephone (08) 9337 4933
Email general@davidgray.com.au
Website <http://www.davidgray.com.au>

1.4 Emergency telephone number(s)

Emergency (08) 9337 4933 (B/H)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Not subject to the ADG Code when transported in Australia by Road or Rail in packages 500kg(L) or less; or IBCs (refer to SP AU01). However, if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG/IMSBC respectively. See details below and in Section 14 of this SDS.

2.2 Label elements

SUSMP Classification 95
ADG Classification Class 9: Miscellaneous dangerous goods.
UN Number 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Signal word WARNING
Flammable liquids Category 4
Aspiration Hazard Category 2
Skin Corrosion /Irritation Category 2
Serious eye damage/eye irritation Category 2B
Acute Toxicity Inhalation Category 4
Hazardous to aquatic environment Short term/Chronic Category 1

Pictogram(s)



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Hazard statement(s)

- H227: Combustible liquid.
AUH066: Repeated exposure may cause skin dryness or cracking.
H305: May be harmful if swallowed and enters airways.
H315: Causes skin irritation.
H320: Causes eye irritation.
H332: Harmful if inhaled.
H410: Very toxic to aquatic life with long lasting effects.

Prevention statement(s)

- P102: Keep out of reach of children.
P261: Avoid breathing fumes, mists, vapours or spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash contacted areas thoroughly after handling.
P271: Use only outdoors or in a well ventilated area.
P273: Avoid release to the environment.
P281: Use personal protective equipment as required.

Response statement(s)

- P312: Call a POISON CENTER or doctor if you feel unwell.
P362: Take off contaminated clothing and wash before reuse.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313: If skin irritation occurs: Get medical advice.
P337+P313: If eye irritation persists: Get medical advice.
P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog.

Storage statement(s)

- P405: Store locked up.
P403+P235: Store in a well-ventilated place. Keep cool.

Disposal statement(s)

- P501 Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided

Emergency Overview

Physical Description & Colour: Clear liquid with a yellow tint.

Odour: Mild solvent odour.

Major Health Hazards: irritating to eyes and skin, harmful if inhaled, if aspirated, may cause lung damage, repeated exposure may cause skin dryness or cracking.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

| Ingredient | CAS Number | Content (%W/W) |
|--------------------------------------|-------------|----------------|
| PHENOTHRIN | 188023-86-1 | 10.14% |
| PIPERONYL BUTOXIDE | 51-03-6 | 10.14% |
| LIQUID HYDROCARBON (carrier solvent) | | Balance |

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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.

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 SDS with you when you call.

4.1 Description of first aid measures

| | |
|-------------------|---|
| Eye | Quickly and gently blot material from eyes. 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. |
| 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 | Quickly and gently blot away excess liquid. Wash gently and thoroughly with warm water (use nonabrasive 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. |
| Ingestion | If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor. |

First aid facilities

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire. Try to contain spills, minimise spillage entering drains or water courses.

5.2 Special hazards arising from the substance or mixture

The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. 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 may be toxic if inhaled. Take appropriate protective measures.

5.3 Advice for firefighters

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 full fire kit and breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

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6.1 Personal precautions, protective equipment and emergency procedures

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. Suitable materials for protective clothing include rubber, PVC. 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. Otherwise, not normally necessary.

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 environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. 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. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. 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.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS 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.

7.2 Conditions for safe storage, including any incompatibilities

This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Check packaging - there may be further storage instructions on the label.

7.3 Specific end use(s)

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

The following Australian Standards will provide general advice regarding safety clothing and equipment: Respiratory equipment: AS/NZS 1715, Protective Gloves: AS 2161, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: AS1336 and AS/NZS 1337, Occupational Protective Footwear: AS/NZS2210.

Biological limits

Exposure limits have not been established by SWA for any of the significant ingredients in this product. The ADI for Phenothrin is set at 0.02mg/kg/day. The corresponding NOEL is set at 2.5mg/kg/day.

The ADI for Piperonyl butoxide is set at 0.1mg/kg/day. The corresponding NOEL is set at 16mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, March 2010. 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.

8.2 Exposure controls

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

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PPE

| | |
|--------------------|---|
| Eye / Face | 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 | Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material type We suggest that protective clothing be made from the following materials: rubber, PVC. |
| Respiratory | Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary. Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being handled commercially |

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|------------------------------|----------------------------------|
| Appearance | Clear liquid with a yellow tint. |
| Odour | Mild solvent odour. |
| Flammability | Not flammable |
| Flash point | >93°C |
| Boiling point | NOT AVAILABLE |
| Melting point | NOT AVAILABLE |
| Evaporation rate | NOT AVAILABLE |
| pH | NOT AVAILABLE |
| Vapour density | NOT AVAILABLE |
| Specific gravity | 0.89 |
| Solubility (water) | Insoluble. |
| Vapour pressure | NOT AVAILABLE |
| Upper explosion limit | NOT RELEVANT |
| Lower explosion limit | NOT RELEVANT |
| Partition coefficient | NOT AVAILABLE |

9.1 Information on basic physical and chemical properties

| | |
|----------------------------------|---------------|
| Autoignition temperature | NOT AVAILABLE |
| Decomposition temperature | NOT AVAILABLE |
| Viscosity | NOT AVAILABLE |
| Explosive properties | NOT AVAILABLE |
| Oxidising properties | NOT AVAILABLE |
| Odour threshold | NOT AVAILABLE |

10. STABILITY AND REACTIVITY

10.1 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.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

10.4 Conditions to avoid

This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated.

10.5 Incompatible materials

strong acids, strong bases, strong oxidising agents.

10.6 Hazardous decomposition products

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Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Inhalation:

Short Term Exposure: Available data shows that this product is harmful, but symptoms are not available. In addition product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort. LC50 rat > 59.17 mg/L of air

Skin Contact - Dermal:

Short Term Exposure: Available data indicates that this product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased. LD50 (rat) > 19,724 mg/kg
Long Term Exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:

Short Term Exposure: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.
Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion - Acute Oral:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. 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. LD50 (rat) > 19,731 mg/kg
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: Piperonyl Butoxide is Class 3 - unclassifiable as to carcinogenicity to humans.

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

12. ECOLOGICAL INFORMATION

12.1 Toxicity

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

The active ingredient, d-phenothrin, has to low toxicity to birds with and eight-day dietary LC₅₀ > 5000 mg/kg (Mallard duck) and an LD₅₀ (Oral) > 2510 mg/kg (Bobwhite quail). Moderate toxicity to fish with 96 hour LC₅₀ 17-200µg/L (various fish species). Piperonyl butoxide is moderately toxic to fish species and highly toxic to invertebrate species. Dangerous to bees - DO NOT spray any plants in flower while bees are foraging. Dangerous to fish and aquatic invertebrates. Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

12.2 Persistence and degradability

d-phenothrin is rapidly degraded in sunlight (half life less than 1 day).

Piperonyl butoxide is rapidly degraded in soils under aerobic conditions both in the presence and absence of sunlight..

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

No information provided.

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12.5 Other adverse effects

No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. If neither of these options is suitable, consider controlled incineration, or landfill.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|------------------------------------|----------------------|---|---|
| 14.1 UN Number | N/A | 3082 | 3082 |
| 14.2 Proper Shipping Name | N/A | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| 14.3 Transport hazard class | N/A | 9 | 9 |
| 14.4 Packing | N/A | III | III |

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code 3Z

Special Provisions: 179, 274, 331, 335, AU01

Packing Instruction: P001, IBC03, LP01

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

15. REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following Ingredients: Phenothrin, Piperonyl butoxide, are mentioned in the SUSMP.

16. OTHER INFORMATION

APVMA No: 86487

Acronyms:

| | |
|--------------|---|
| ADG Code | Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition) |
| AICS | Australian Inventory of Chemical Substances |
| SWA | Safe Work Australia, formerly ASCC and NOHSC |
| 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 |
| NOS | Not otherwise specified |
| NTP | National Toxicology Program (USA) |
| R-Phrase | Risk Phrase |
| SUSMP | Standard for the Uniform Scheduling of Medicines & Poisons |
| UN Number | United Nations Number |

This Safety Data Sheet has been developed according to the Worksafe Australia Codes of Practice.

Hazard and precautionary statements according to classification under GHS (Globally Harmonised System) of Classification and Labelling.

The information contained herein is given in good faith however and is considered to be accurate at the specified issue date. No warranty expressed or implied is made to the accuracy or completeness of the data and information contained herein. No person, other than an authorised representative of David Gray & Company Pty Ltd, has the authority to make any alterations to this SDS.

Contact David Gray & Co Pty Limited for further product information on (08) 9337 4933 during normal business hours.

[End of SDS]