



## Safety data sheet

Page: 1/15

Date / Revised: 24.02.2023

Version: 1.0

Product: **David Grays Graybate 10SG Mosquito Larvicide Granules**

Date of print 24.02.2023

### 1. Identification

#### Product identifier

## David Grays Graybate 10SG Mosquito Larvicide Granules

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Insecticide, Mosquito larvicide

#### Details of the supplier of the safety data sheet

##### Company:

David Gray & Co. Pty Ltd  
2 Rawlinson Street  
O'Connor, 6163, Western Australia

Telephone: +61 8 9337 4933

#### Emergency telephone number

Emergency Call  
Telephone: +61 8 9337 4933

---

### 2. Hazards Identification

#### Classification of the substance or mixture

According to UN GHS criteria

STOT RE 2  
Aquatic Acute 1  
Aquatic Chronic 1

For the classifications not written out in full in this section the full text can be found in section 16.

## Label elements

### Globally Harmonized System (GHS)



Signal Word:  
Warning

Hazard Statement:

H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statement:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.

Precautionary Statements (Prevention):

P260	Do not breathe dust.
------	----------------------

Precautionary Statements (Response):

P314	Get medical advice/attention if you feel unwell.
P391	Collect spillage.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
------	---

### According to UN GHS criteria

Hazard determining component(s) for labelling: TEMEPHOS

## Other hazards

### According to UN GHS criteria

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

### 3. Composition/Information on Ingredients

#### Substances

Not applicable

#### Mixtures

##### Chemical nature

crop protection product, insecticide, Granule (GR)

##### Hazardous ingredients (GHS)

According to UN GHS criteria

temephos (ISO); Phosphorothioic acid, O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl ester

Content (W/W): 1 %

CAS Number: 3383-96-8

EC-Number: 222-191-1

Acute Tox. 4 (Inhalation - vapour)

Acute Tox. 5 (oral)

Acute Tox. 5 (dermal)

STOT RE 1

Aquatic Acute 1

Aquatic Chronic 1

H313, H332, H303, H372, H400, H410

Calcium dodecylbenzenesulphonate

Content (W/W): < 1 %

CAS Number: 26264-06-2

EC-Number: 247-557-8

REACH registration number: 01-

0000015475-68

Skin Corr./Irrit. 2

Eye Dam./Irrit. 1

H318, H315

Quartz (SiO<sub>2</sub>)

Content (W/W): < 100 %  
CAS Number: 14808-60-7  
EC-Number: 238-878-4

Silicon dioxide

Content (W/W): < 5 %  
CAS Number: 61790-53-2

For the classifications not written out in full in this section the full text can be found in section 16.

---

## 4. First-Aid Measures

### Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

### Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

### Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

---

## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:  
water spray, foam, dry powder

Unsuitable extinguishing media for safety reasons:  
carbon dioxide

### Special hazards arising from the substance or mixture

carbon monoxide, Carbon dioxide, sulfur oxides, phosphorus oxides  
The substances/groups of substances mentioned can be released in case of fire.

### **Advice for fire-fighters**

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

---

## **6. Accidental Release Measures**

### **Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

### **Environmental precautions**

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

### **Methods and material for containment and cleaning up**

For small amounts: Contain with dust binding material and dispose of.

For large amounts: Sweep/shovel up.

Avoid raising dust. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

### **Reference to other sections**

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

---

## **7. Handling and Storage**

### **Precautions for safe handling**

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

### **Conditions for safe storage, including any incompatibilities**

Segregate from foods and animal feeds.

storage conditions: Keep away from heat. Protect against moisture. Protect from direct sunlight.

Storage stability:

Storage duration: 24 Months

### **Specific end use(s)**

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

---

## **8. Exposure Controls/Personal Protection**

### **Control parameters**

#### Components with occupational exposure limits

3383-96-8: Temephos

14808-60-7: Quartz (SiO<sub>2</sub>)

61790-53-2: Silicon dioxide

### **Exposure controls**

#### Personal protective equipment

Respiratory protection:

Respiratory protection not required.

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact

(Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

#### General safety and hygiene measures

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

---

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Form:	granules
Colour:	light brown / pale
Odour:	of mercaptans
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	The product has not been tested.
Melting point:	The product has not been tested.
Boiling point:	The product is a non-volatile solid.
Flash point:	not applicable, the product is a solid
Evaporation rate:	not applicable
Flammability:	not flammable
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Vapour pressure:	The product has not been tested.
Relative vapour density (air):	not applicable
Solubility in water:	not soluble
Partitioning coefficient n-octanol/water (log Kow):	not applicable
Self ignition:	Based on its structural properties the product is not classified as self-igniting.
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	not applicable, the product is a solid
Explosion hazard:	not explosive
Fire promoting properties:	not fire-propagating

**Other information**

Self heating ability: It is not a substance capable of spontaneous heating.

Bulk density: 1.200 - 1.520 kg/m<sup>3</sup>

---

**10. Stability and Reactivity****Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated.

**Chemical stability**

The product is stable if stored and handled as prescribed/indicated.

**Possibility of hazardous reactions**

No hazardous reactions if stored and handled as prescribed/indicated.

**Conditions to avoid**

See MSDS section 7 - Handling and storage.

**Incompatible materials**

Substances to avoid:  
strong acids, strong bases, strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products:  
No hazardous decomposition products if stored and handled as prescribed/indicated.

---

**11. Toxicological Information****Information on toxicological effects**Acute toxicity

Assessment of acute toxicity:  
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Experimental/calculated data:  
LD50 rat (oral): > 2.000 mg/kg (OECD Guideline 401)  
No mortality was observed. (by inhalation)



The product has not been tested. The statement has been derived from the properties of the individual components.

LD50 rat (dermal): > 2.000 mg/kg (OECD Guideline 402)  
No mortality was observed.

*Information on: temephos (ISO); Phosphorothioic acid, O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl ester*

*Experimental/calculated data:*

*LC50 rat (by inhalation): > 4,79 mg/l 4 h (OECD Guideline 403)*

*An aerosol was tested.*

#### Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

#### Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)

#### Germ cell mutagenicity

Assessment of mutagenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

#### Carcinogenicity

Assessment of carcinogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

#### Reproductive toxicity

Assessment of reproduction toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

## Assessment of teratogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

## Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Remarks: The product has not been tested. The statement has been derived from the properties of the individual components.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

## Assessment of repeated dose toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: temephos (ISO); Phosphorothioic acid, O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl ester*

*Assessment of repeated dose toxicity:*

*Causes mortality and signs of neurotoxicity through prolonged or repeated exposure.*

---

Aspiration hazard

No aspiration hazard expected.

The product has not been tested. The statement has been derived from the properties of the individual components.

Other relevant toxicity information

Misuse can be harmful to health.

---

## 12. Ecological Information

### Toxicity

## Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

## Toxicity to fish:

LC50 (96 h) 5,4 mg/l, *Cyprinodon variegatus* (Flow through.)

Aquatic invertebrates:  
EC50 (96 h) 0,014 mg/l, other (Flow through.)

Aquatic plants:  
not determined

### **Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):  
The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: temephos (ISO); Phosphorothioic acid, O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl ester*

*Assessment biodegradation and elimination (H<sub>2</sub>O):  
Not readily biodegradable (by OECD criteria).*

---

### **Bioaccumulative potential**

Assessment bioaccumulation potential:  
The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: temephos (ISO); Phosphorothioic acid, O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl ester*

*Bioaccumulation potential:  
Bioconcentration factor: 2.300 (28 d), *Lepomis macrochirus* (other)  
Significant accumulation in organisms is not to be expected.*

---

### **Mobility in soil**

Assessment transport between environmental compartments:  
Adsorption in soil: The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: temephos (ISO); Phosphorothioic acid, O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl ester*

*Assessment transport between environmental compartments:  
Adsorption in soil: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.*

---

### **Results of PBT and vPvB assessment**

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

**Other adverse effects**

The product does not contain substances that are listed in the Montreal Protocol on substances that deplete the ozone layer.

**Additional information**

Other ecotoxicological advice:

Do not discharge product into the environment without control.

---

**13. Disposal Considerations****Waste treatment methods**

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

---

**14. Transport Information****Land transport**

Not Applicable

Not classified as dangerous goods for land transport.

**Inland waterway transport**

ADN

UN number: UN3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(contains TEMEPHOS)  
Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

**Transport in inland waterway vessel**

Not evaluated

**Sea transport**

IMDG

UN number: UN 3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(contains TEMEPHOS)  
Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Marine pollutant: YES  
Special precautions for user: None known

**Air transport**

IATA/ICAO

UN number: UN 3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(contains TEMEPHOS)  
Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

**UN number**

See corresponding entries for "UN number" for the respective regulations in the tables above.

**UN proper shipping name**

See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

#### **Transport hazard class(es)**

See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

#### **Packing group**

See corresponding entries for “Packing group” for the respective regulations in the tables above.

#### **Environmental hazards**

See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

#### **Special precautions for user**

See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

#### **Transport in bulk according to Annex II of MARPOL and the IBC Code**

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

## **15. Regulatory Information**

### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

To avoid risks to man and the environment, comply with the instructions for use.

## **16. Other Information**

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
STOT SE	Specific target organ toxicity — single exposure
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
H313	May be harmful in contact with skin.
H332	Harmful if inhaled.
H303	May be harmful if swallowed.

---

**Product: David Grays Graybate 10SG Mosquito Larvicide Granules**

---

Date of print 24.02.2023

H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H225	Highly flammable liquid and vapour.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H301	Toxic if swallowed.
H370	Causes damage to organs (Central nervous system, Optic nerve).
H318	Causes serious eye damage.
H315	Causes skin irritation.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

---