

## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

Product name DAVID GRAYS GLYPHOSATE 450 HERBICIDE  
Synonym(s) 91397 - GLYPHOSATE 450

#### 1.2 Uses and uses advised against

Use(s) Agricultural herbicide

#### 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](mailto: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

#### Statement of Hazardous Nature

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

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

**SUSMP Classification:** S5

**ADG Classification:** None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

**UN Number:** None allocated



#### GHS Signal word: WARNING

Skin Irritation Category 2

Serious eye irritation Category 2/2A

Hazardous to aquatic environment Short term/Chronic Category 2

#### HAZARD STATEMENT:

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H411: Toxic to aquatic life with long lasting effects.

#### PREVENTION

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash contacted areas thoroughly after handling.

P273: Avoid release to the environment.

P280: Wear protective gloves, protective clothing and eye or face protection.

#### RESPONSE

P362: Take off contaminated clothing and wash before reuse.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SAFETY DATA SHEET

P332+P313: If skin irritation occurs: Get medical advice.  
P337+P313: If eye irritation persists: Get medical advice.  
P391: Collect spillage.  
P370+P378: Not combustible. Use extinguishing media suited to burning materials.

### STORAGE

P410: Protect from sunlight.  
P402+P404: Store in a dry place. Store in a closed container.  
P403+P235: Store in a well-ventilated place. Keep cool.

### DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

Ingredient	CAS Number	Content (g/L)
Glyphosate (as isopropylamine sale)	38641-94-0	450
Surfactants	N/A	100 – 300 g/L
NON HAZARDOUS INGREDIENTS	Not Available	Balance

## 4. FIRST AID MEASURES

### 4.1 Description of 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.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**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 15 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 product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

## 5. FIRE FIGHTING MEASURES

**Fire and Explosion Hazards:** The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

This product is likely to decompose only after heating to dryness, followed by further strong heating. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Not combustible. Use extinguishing media suited to burning materials.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.



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## SAFETY DATA SHEET

Flash Point: Will not burn until water component is driven off.

Upper Flammability Limit: Does not burn

Lower Flammability Limit: Does not burn

Autoignition temperature: Does not burn

Flammability Class: Does not burn.

## SAFETY DATA SHEET

### 6. ACCIDENTAL RELEASE MEASURES

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

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

#### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

#### 6.3 Methods of cleaning up

Moisten with water to prevent a dust hazard and place in sealable containers for disposal.

#### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal

### 7. HANDLING AND STORAGE

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**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.

**Storage:** This product is a Scheduled Poison 5. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. 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. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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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**.

#### **SWA Exposure Limits**

#### **TWA (mg/m<sup>3</sup>)**

#### **STEL (mg/m<sup>3</sup>)**

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Glyphosate is set at 0.3mg/kg/day. The corresponding NOEL is set at 30mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

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.

**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.

## SAFETY DATA SHEET

**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.  
Eyebaths or eyewash stations and safety deluge showers should, if practical, be provided near to where this product is being handled commercially.



## SAFETY DATA SHEET

### PHYSICAL AND CHEMICAL PROPERTIES

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#### 9.1 Information on basic physical and chemical properties

Appearance	Semi Viscous Yellow Liquid
Odour	CHARACTERISTIC OF FORMULATION – Slight Amine odour
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	Approximately 100C
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	4.5 – 5.5
Vapour density	NOT AVAILABLE
Specific gravity	1.1 – 1.2
Solubility (water)	Soluble
Vapour pressure	2.37 kPa at 20°C (water vapour pressure).
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

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**Reactivity:** When concentrate is in contact with alkaline materials, it may release isopropylamine vapour, which is an eye irritant.

**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:** bases, galvanised or unlined steel (except stainless steel).

**Fire Decomposition:** This product is likely to decompose only after heating to dryness, followed by further strong heating. Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** Polymerisation reactions are unlikely; they are not expected to occur

### 11. TOXICOLOGICAL INFORMATION

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**Toxicity:** An information profile for Glyphosate is available at <http://extoxnet.orst.edu/pips/ghindex.html>

**Acute toxicity:** Oral LD<sub>50</sub> values for glyphosate are greater than 10,000 mg/kg in mice, rabbits, and goats. The toxicities of the technical acid (glyphosate) and the formulated product are nearly the same. It is practically nontoxic by skin exposure, with reported dermal LD<sub>50</sub> values of greater than 5000 mg/kg for the acid and isopropylamine salt. The trimethylsulfonium salt has a reported dermal LD<sub>50</sub> of greater than 2000 mg/kg. The

## SAFETY DATA SHEET

reported 4-hour rat inhalation LC<sub>50</sub> values for the technical acid and salts were 5 to 12 mg/L, indicating moderate toxicity via this route. Some formulations may show high acute inhalation toxicity. While it does contain a phosphatyl functional group, it is not structurally similar to organophosphate pesticides which contain organophosphate esters, and it does not significantly inhibit cholinesterase activity.

**Chronic toxicity:** Studies of glyphosate lasting up to 2 years, have been conducted with rats, dogs, mice, and rabbits, and with few exceptions no effects were observed. For example, in a chronic feeding study with rats, no toxic effects were observed in rats given doses as high as 400 mg/kg/day. Also, no toxic effects were observed in a chronic feeding study with dogs fed up to 500 mg/kg/day, the highest dose tested.

**Reproductive effects:** Laboratory studies show that glyphosate produces reproductive changes in test animals very rarely and then only at very high doses (over 150 mg/kg/day). It is unlikely that the compound would produce reproductive effects in humans.

**Teratogenic effects:** In a teratology study with rabbits, no developmental toxicity was observed in the foetuses at the highest dose tested (350 mg/kg/day). Glyphosate does not appear to be teratogenic.

**Mutagenic effects:** Glyphosate mutagenicity and genotoxicity assays have been negative. It appears that glyphosate is not mutagenic.

**Carcinogenic effects:** There was limited evidence for Glyphosate of carcinogenicity in humans for non - Hodgkin lymphoma. The evidence in humans is from studies of exposures, mostly agricultural, in the USA, Canada, and Sweden published since 2001. In addition, there is convincing evidence that glyphosate also can cause cancer in laboratory animals. In 2015, IARC classified glyphosate as 'probably carcinogenic to humans', but has since (May 2016) concluded glyphosate is unlikely to pose a carcinogenic or genotoxic risk to humans.

**Organ toxicity:** Some microscopic liver and kidney changes, but no observable differences in function or toxic effects, have been seen after lifetime administration of glyphosate to test animals.

**Fate in humans and animals:** Glyphosate is poorly absorbed from the digestive tract and is largely excreted unchanged by mammals. At 10 days after treatment, there were only minute amounts in the tissues of rats fed glyphosate for 3 weeks. Cows, chickens, and pigs fed small amounts of glyphosate had undetectable levels (less than 0.05 ppm) in muscle tissue and fat. Levels in milk and eggs were also undetectable (less than 0.025 ppm). Glyphosate has no significant potential to accumulate in animal tissue. There is no data to hand indicating any particular target organs.

### Inhalation:

**Short Term Exposure:** Available data indicates that this product is not harmful. In addition, product is unlikely to cause any discomfort or irritation.

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

### Skin Contact:

**Short Term Exposure:** This product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but if treated promptly, all should disappear once exposure has ceased.

**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.



## SAFETY DATA SHEET

**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 not harmful. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

**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.

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

## 12. ECOLOGICAL INFORMATION

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

**Effects on birds:** Glyphosate is not harmful to wild birds. The dietary LC<sub>50</sub> in both mallards and bobwhite quail is greater than 4500 ppm.

**Effects on aquatic organisms:** Technical glyphosate acid is practically nontoxic to fish and may be slightly toxic to aquatic invertebrates. The reported 96-hour LC<sub>50</sub> values for other aquatic species include greater than 10 mg/L in Atlantic oysters, 934 mg/L in fiddler crab, and 281 mg/L in shrimp. The 48-hour LC<sub>50</sub> for glyphosate in Daphnia (water flea), an important food source for freshwater fish, is 780 mg/L. Some formulations may be more toxic to fish and aquatic species due to differences in toxicity between the salts and the parent acid or to surfactants used in the formulation. There is a very low potential for the compound to build up in the tissues of aquatic invertebrates or other aquatic organisms.

**Effects on other organisms:** Glyphosate is nontoxic to honeybees. Its oral and dermal LD<sub>50</sub> is greater than 0.1 mg/ bee. The reported contact LC<sub>50</sub> values for earthworms in soil are greater than 5000 ppm for both the glyphosate trimethylsulfonium salt and formulated product.

### Environmental Fate:

**Breakdown in soil and groundwater:** Glyphosate is moderately persistent in soil, with an estimated average half-life of 47 days. Reported field half-lives range from 1 to 174 days. It is strongly adsorbed to most soils, even those with lower organic and clay content.

**Breakdown in water:** In water, glyphosate is strongly adsorbed to suspended organic and mineral matter and is broken down primarily by microorganisms. Its half-life in pond water ranges from 12 days to 10 weeks.

**Breakdown in vegetation:** Glyphosate may be translocated throughout the plant, including to the roots. It is extensively metabolized by some plants, while remaining intact in others.

## 13. DISPOSAL CONSIDERATIONS

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### 13.1 Waste treatment methods

**Waste disposal** For small amounts, cover with moist sand or similar, collect and dispose of to an approved landfill site. Avoid generating dust. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.



## SAFETY DATA SHEET

### 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	N/A	N/A
14.2 Proper Shipping Name	N/A	N/A	N/A
14.3 Transport hazard class	N/A	N/A	N/A
14.4 Packing	N/A	N/A	N/A

### 15. REGULATORY INFORMATION

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

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).	
<b>APVMA Number(s)</b>	91397	
<b>Classifications and</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].	
<b>Hazard codes</b>	N	Dangerous for the environment
<b>Risk phrases</b>	R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>Safety phrases</b>	S2 S61	Keep out of reach of children. Avoid release to the environment. Refer to special instructions/safety data sheets.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS or are exempt.	

### 16. OTHER INFORMATION

#### Additional information

**RESPIRATORS:** In general, the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**SYNERGISM - ANTAGONISM:** Ingredients in this product may act together to aggravate or reduce adverse effects. Accordingly, the time weighted average concentration (TWA) provided for single ingredients should be considered as a guide only and all due care exercised when handling.

## SAFETY DATA SHEET

### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

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 ]**