

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

Product Identifiers

Product Name: 2,4-Dichlorophenoxyacetic Acid Solution (10 mg/mL)
Product Number: D309

Other means of identification

Synonyms: 2,4-D

Recommended Use For Research/Laboratory Use ONLY

Restrictions on Use Products manufactured by PhytoTechnology Laboratories and supplied by Austratec Pty Ltd are intended for research and laboratory use ONLY. Products are NOT to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

Details of Importer/Supplier

Company: Austratec Pty Ltd, Factory 12/49 Corporate Blvd, Bayswater VIC 3153, AUSTRALIA
Telephone: +61 3 9729 4528
Fax: +61 3 9729 4578
Website: www.austratec.com.au

Emergency phone number 13 11 26 (24 hour – Poisons Information Centre)

2. HAZARD(S) IDENTIFICATION

GHS Classification Acute toxicity, Oral (Category 4)
Acute toxicity, Dermal (Category 4)
Serious eye damage (Category 1)
Specific target organ toxicity, single exposure: Respiratory system (Category 3)

GHS Label elements, including precautionary statements

Pictogram:  Signal Word: **WARNING**

Hazard Statement(s) H302 – Harmful if swallowed.
H312 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H335 – May cause respiratory irritation

Precautionary statement(s)

Prevention: P261 – Avoid breathing mist/vapours/spray.
P264 – Wash hands thoroughly after handling
P270 – Do not eat, drink or smoke when using this product.
P721 - Use only outdoors or in a well-ventilated area.
P280 – Wear eye/face protection.

Response: P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + 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.
P310 – Immediately call a POISON CENTER or doctor/physician.
P312 – Call a POISON CENTER or doctor/physician if you feel unwell.
P330 – Rinse mouth.
P363 – Wash contaminated clothing before reuse.

Storage: P403 + P223 – Store in a well ventilated place. Keep container tightly closed.
P405 – Store locked up.

Disposal: P501 - Dispose of contents/container to an approved chemical waste disposal plant.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

CAS Number: 94-75-7 EC Number: None
Formula: C₈H₆Cl₂O₃ Molecular Weight: 221.04 g/mol

INGREDIENT	CAS NUMBER	PERCENTAGE	HAZARDOUS
2,4-Dichlorophenoxyacetic Acid	94-75-7	1%	ACGIH TLV: 10 mg/m ³ ; OSHA PEL:10 mg/m ³
Potassium Hydroxide, 1.0N	1310-58-3	25-35%	ACGIH TLV: 2 mg/m ³
Water	7732-18-5	64-74%	No exposure limits established by OSHA or ACGIH

4. FIRST AID MEASURES

Description of first aid measures

General advice: Consult a doctor/physician. Show this safety data sheet to the doctor in attendance.

Ingestion: MAY CAUSE IRRITATION IF SWALLOWED. If swallowed, wash mouth out with water. Never give anything by mouth to an unconscious person. Seek medical attention.

Inhalation: MAY CAUSE IRRITATION TO RESPIRATORY TRACT. Safely remove person to fresh air. If not breathing, begin cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Seek medical attention.

Eye contact: DIRECT CONTACT MAY CAUSE IRRITATION, REDNESS, TEARING, OR BLURRED VISION. Flush eye out immediately with water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical attention if irritation persists.

Skin contact: MAY CAUSE IRRITATION, REDDENING, ITCHING OR INFLAMATION. Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Seek medical attention.

Most important symptoms and effects, both acute and delayed

See section 2 and/or section 11

Recommendation for immediate medical attention and special treatment needed

No data available

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.

Specific hazards arising from the chemical

Hazardous combustion products:	May emit toxic fumes under fire conditions.
Toxic gases produced:	Carbon monoxide, carbon dioxide.
Special protective equipment and precaution for firefighters	In the event of fire, wear full protective clothing and NIOSH (US) or EN145 (EU) approved self contained breathing apparatus. Evacuate the area and fight fire from a safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protection equipment (PPE) recommended in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleanup	Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place in a dry container and cover. Remove from area for safe disposal (see section 13). Flush spill area with water. Do not let product enter drain.

7. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Provide appropriate exhaust ventilation where dust is formed. Wash thoroughly after use.
Conditions for safe storage	Keep in a tightly closed container and store in a cool, dry and well ventilated area.
Recommended Storage Temperature	2 to 6°C
Incompatibilities	Strong oxidizing agents.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure control measures

Australian Exposure Standards (TWA;STEL): No data available

OSHA's permissible exposure limits (PEL's): 10.0 mg/m³

ACGIH threshold limit values (TLV's): 10.0 mg/m³

Engineering controls Handle in accordance to general industrial hygiene and chemical safety practice.

Personal protective equipment (PPE)

Eye Face Protection: Chemical safety shield, glasses or goggles approved under NIOSH (US) or EN166 (EU). Have eye washing facilities readily available where eye contact can occur.

Skin Protection: Suitable protective gloves.

Body Protection: Lab coat or protective chemical suit. Protective equipment must be selected in accordance to the amount of dangerous substance within the specific workplace.

Respiratory Protection: Use an appropriate dust mask. Use N95 (US) or type P1 (EN143) dust mask where dust level is a nuisance. Appropriate respirator approved under NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear, colourless liquid

Product No. D309

Odour	Odourless.
Odour threshold	No data available
pH	No data available
Melting point	136 - 140°C
Initial boiling point/boiling range	No data available
Flash point (closed cup)	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Flammable limits (upper %)	No data available
Flammable limits (lower %)	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	1.57 g/cm ³
Solubility	Miscible with water.
Partition coefficient (n-octanol/water)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available

10. STABILITY AND REACTIVITY

Reactivity	No data available
Chemical stability	Stable under normal conditions of use and recommended storage conditions.
Possibility of hazardous reactions	No data available
Conditions to avoid	Moisture
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon monoxide, carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD ₅₀ (Oral, Rat)(mg/Kg):	375
	LD ₅₀ (Oral, Mouse)(mg/Kg):	347
	LD ₅₀ (IV, Rabbit)(mg/Kg):	400
Skin corrosion/irritation	No data available	
Serious eye damage/irritation	No data available	
Respiratory or skin sensitisation	No data available	
Germ cell mutagenicity	No data available	

Carcinogenicity	NTP:	No
	IARC:	No
	Z List:	No
	OSHA Reg:	No
Reproductive toxicity	No data available.	
Specific target organ toxicity (STOT)	Single Exposure:	No data available
	Repeated Exposure:	No data available
Aspiration hazard	No data available	
Target organs	Skin, central nervous system, liver, kidneys.	
Medical conditions aggravated by exposure	None identified.	
Routes of entry	Ingestion, inhalation, skin and eye contact.	
Symptoms associated with overexposure	Irritation, dermatitis, convulsions, muscular weakness, liver or kidney damage, eye damage.	
NIOSH/RTECS No.	AG6825000	

The toxicological properties of this product have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Ecotoxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects	No data available

13. DISPOSAL CONSIDERATIONS

Disposal procedure	Dispose in accordance with all applicable government, state, and environmental chemical safety practices.
EPA hazardous waste number	D016 (2,4-D)

14. TRANSPORT INFORMATION

UN number	ADG: Non-Dangerous Goods IMDG: Non-Dangerous Goods IATA: Non-Dangerous Goods
Proper shipping/technical name	Non-Dangerous Goods
Hazard Class	No data available
Packing group	No data available
Environmental hazards	No data available
Special precautions	No data available

15. REGULATORY INFORMATION

Notification Status

Australia (AICS): Listed

New Zealand (NZIoC): Not determined

USA (TSCA): Listed

SARA TITLE III: Section 302 (EHS) Ingredients: No
 Section 313 Ingredients: No
 Section 304 (EHS/CERCLA) Ingredients: Potassium Hydroxide; 2,4-D
 Section 311/312 Hazard: Acute health hazard, chronic health hazard.

16. OTHER INFORMATION

HMIS Rating:	Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard
	1		0	0
NFPA Rating:	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
	1	0	0	

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