

Section 1 - Identification of The Material and Supplier

Sabakem Pty Ltd**Suite 809, Level 8, 2 Queen St
Melbourne VIC 3000 AUSTRALIA****Phone: 03 9629 3979****www.sabakem.com****Emergency: 1800 033 111****Product Name: Sabakem 2,4-D LVE 680 Herbicide****Other means of identification:** 2,4-D is an aryloxyalkanoic acid derivative, present here as the ethylhexyl ester.**Recommended Use:** Agricultural herbicide for use as described on the product label.**Emergency telephone:** Poisons Information Centre 13 11 26 (24 hours)

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Classification of the substance or mixture:**Acute Oral Toxicity Category 4****Skin Sensitisation Category 1**

The following health hazard categories fall outside the scope of the Workplace Health and Safety Regulations

Acute Aquatic Toxicity Category 1**Chronic Aquatic Toxicity Category 1****Signal word: WARNING****HAZARD STATEMENT(S):**

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENT(S):**PREVENTION**

P261: Avoid breathing fumes, mists, vapours or spray.

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to the environment.

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

RESPONSE

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

P330: Rinse mouth.

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

P321: Specific treatment (see the label).

P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.

P391: Collect spillage.

DISPOSAL

P501: Dispose of contents and containers to landfill.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc. (% w/v)
2,4-D (as 2-ethylhexyl ester)	1928-43-4	68.0

Other components are not considered hazardous in this formulation and therefore are not required to be disclosed according to the WHS Regulations.

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 SDS with you when you call.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

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 if irritation occurs. Take special care if exposed person is wearing contact lenses.

First Aid Facilities: Eyewash and normal washroom facilities. Safety deluge showers should, if practical, be provided near to where this product is being used.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre or call a doctor.

Major Health Hazards: Harmful if swallowed, may irritate eyes, skin and may cause an allergic skin reaction.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire however There is little danger of a violent reaction or explosion if significant quantities of this product 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.

Flammability Class: C2 combustible product.

Suitable Extinguishing Media: Try to contain spills, minimise spillage entering drains or water courses.

Special Protective Equipment and Precautions for Fire Fighters: In the event of fire and/or explosion do not breathe fumes and wear self-contained breathing apparatus and protective equipment.

Hazchem Code: •3Z (bulk transport only)

Section 6 - Accidental Release Measures

Environmental precautions: In the event of a major spill, prevent spillage from entering drains or water courses with absorbent material. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains.

Methods and materials for containment and cleaning up: 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. Avoid using sawdust or other combustible material. 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. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal.

Personal precautions, protective equipment and emergency procedures: All skin areas should be covered. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self-contained breathing apparatus. Suitable materials for protective clothing include PVC, Nitrile. Use impermeable gloves with care. Eye/face protective equipment should comprise, as a minimum, protective goggles. Do not breathe vapours. Usually, no respirator is necessary when using this product however, 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 suitable respirator. Refer to section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Evacuate all non-essential personnel from affected area. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking. If a significant quantity of material enters drains, advise emergency services.

Section 7 - Handling and Storage

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.

Conditions for Safe Storage: 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.

This product is a Scheduled Poison. 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 containers of this product are kept tightly closed. 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.

Section 8 - Exposure Controls and Personal Protection

Exposure Standards: Exposure limits have not been established by SWA for this product.

Engineering Controls: Ensure adequate ventilation of the working area.

Respiratory Protection: Respiratory protective equipment is not needed under normal and intended conditions of product use. Ensure the work environment remains clean and that vapours and mists are minimised. If ventilation is inadequate, suitable respiratory protection should be worn, consult AS/NZS 1715 and AS/NZS 1716 for further information.

Eye and Face Protection Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. See Australian/New Zealand Standard Industrial Eye Protection: AS1336 and AS/NZS 1337 for more information. Emergency eye wash facilities should be provided in an area close to where this product is being used.

Skin Protection: Make sure that all skin areas are covered. Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Use PVC or rubber gloves. See Australian/New Zealand Standard AS/NZS 2161 for

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more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered. Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard Occupational Protective Clothing: AS/NZS 4501 and Occupational Protective Footwear: AS/NZS2210 for more information.

Section 9 - Physical and Chemical Properties

Physical Description & colour:	Amber to brown liquid.
Odour:	Characteristic solvent odour.
Boiling Point:	>200°C at 100kPa
Flash point:	130°C
Firepoint:	220°C
Freezing/Melting Point:	-5°C
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	0.48 mPa at 25°C
Vapour Density:	No data.
Specific Gravity:	1.14
Water Solubility:	Dispersible.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	5.78 (log P octanol/water)
Autoignition temp:	No data.

Section 10 - Stability and Reactivity

Reactivity and possibility of hazardous reactions: 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. This product will not undergo polymerisation reactions.

Chemical Stability: Product is considered stable when stored under ambient storage and handling conditions.

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.

Incompatible materials: Strong oxidising agents.

Hazardous decomposition products: Following fire - carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen chloride gas, other compounds of chlorine. Water.

Section 11 - Toxicological Information

Acute Toxicity: Product causes acute toxicity via oral route and is harmful if swallowed. 2,4-D esters are of low to moderate toxicity. 2,4-D esters and products are of low acute dermal toxicity in rats and rabbits. 2,4-D esters were of low inhalational toxicity.

No data is available on the formulated product. The following is the acute toxicity data available for 2,4-D Ethylhexyl ester: Oral LD50 (Rat): 896 mg/kg; Oral LD50 (Mice): 138 mg/kg (acid); Dermal LD50 (Rabbit): >2000 mg/kg; Inhalation LC50 (Rat): >5.4 mg/L.

Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met. Product may be irritating to skin but is unlikely to cause anything more than mild transient discomfort.

Serious Eye Damage/Irritation: Based on classification principles, the classification criteria are not met.

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May cause eye irritation. 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 may disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Respiratory or Skin Sensitisation: May cause an allergic skin reaction.

Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe.

Persons allergic/sensitised to 2,4-D compounds should avoid exposure to this product.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

2,4-D has been very extensively tested and was found to be non-mutagenic in most systems. 2,4D did not damage DNA in human lung cells.

Carcinogenicity: Based on classification principles, the classification criteria are not met.

No significant ingredient is classified as carcinogenic by IARC.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

High levels of 2,4-D (about 50 mg/kg/day) administered orally to pregnant rats did not cause any adverse effects on birth weights or litter size. Thus, reproductive problems associated with 2,4-D are unlikely in humans under normal circumstances.

Specific Target Organ Toxicity (STOT)—single exposure: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)—repeated exposure: Based on classification principles, the classification criteria are not met.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

Chronic Health Effects: In humans, prolonged breathing of 2,4-D causes coughing, burning, dizziness, and temporary loss of muscle coordination. Other symptoms of poisoning can be fatigue and weakness with possible nausea. On rare occasions following high levels of exposure, there can be inflammation of the nerve endings with muscular effects.

Chronic toxicity: Rats given high amounts, 50 mg/kg/day, of 2,4-D in the diet for 2 years showed no adverse effects. Dogs fed lower amounts in their food for 2 years died, probably because dogs do not excrete organic acids efficiently. A human given a total of 16.3 g in 32 days therapeutically, lapsed into a stupor and showed signs of incoordination, weak reflexes, and loss of bladder control.

Additional toxicological information:

The ADI for 2,4-D (as 2-ethylhexyl ester) is set at 0.01mg/kg/day & the corresponding NOEL is set at 1mg/kg/day (Data from Australian ADI List, Dec 2012). ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level.

Organ toxicity: Most symptoms of 2,4-D exposure disappear within a few days, but there is a report of liver dysfunction from long-term exposure.

Fate in humans and animals: The absorption of 2,4-D is almost complete in mammals after ingestion and nearly all of the dose is excreted in the urine. The compound is readily absorbed through the skin and lungs. Men given 5 mg/kg excreted about 82% of the dose as unchanged 2,4-D. The half-life is between 10 and 20 hours in living organisms. There is no evidence that 2,4-D accumulates to significant level in mammals or in other organisms. Between 6 and 8 hours after doses of 1 mg/kg, peak concentrations of 2,4-D were found in the blood, liver, kidney, lungs, and spleen of rats. There were lower levels in muscle and brain. After 24 hours, there were no detectable tissue residues. Only traces of the compound have been found in the milk of lactating animals for 6 days following exposure. There is no data to hand indicating any particular target organs.

Inhalation: Product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Ingestion: This product is an oral irritant however significant oral exposure is unlikely. 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.

Section 12 - Ecological Information

Ecotoxicity: Very toxic to aquatic life with long lasting effects.

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Effects on aquatic organisms:

Toxicity data on the active 2,4-D present as the ethylhexyl ester is available:

EC50/48 h: 5.2 mg/l (Daphnia magna (water flea))

LC50/96 h: 20 mg/l (Lepomis macrochirus (bluegill))

Effects on birds: 2,4-D is harmful to wildfowl and slightly to moderately toxic to birds. The LD₅₀ is 1000 mg/kg in mallards, 272 mg/kg in pheasants, and 668 mg/kg in quail and pigeons.

Effects on other organisms: Moderate doses of 2,4-D severely impaired honeybees brood production. At lower levels of exposure, exposed bees lived significantly longer than the controls. The honeybee LD₅₀ is 0.0115 mg/bee.

Persistence and Degradability: This product is biodegradable.

Breakdown in soil and groundwater: 2,4-D has low soil persistence. The half-life in soil is less than 7 days. Soil microbes are primarily responsible for its disappearance.

Breakdown in water: In aquatic environments, microorganisms readily degrade 2,4-D. Rates of breakdown increase with increased nutrients, sediment load, and dissolved organic carbon. Under oxygenated conditions the half-life is 1 week to several weeks.

Breakdown in vegetation: 2,4-D interferes with normal plant growth processes. Uptake of the compound is through leaves, stems, and roots. Breakdown in plants is by a variety of biological and chemical pathways. 2,4-D is toxic to most broad leaf crops, especially cotton, tomatoes, beets, and fruit trees.

Bioaccumulative Potential: It will not accumulate in the soil or water or cause long term problems.

Mobility in Soil: No data available.

Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

Section 14 - Transport Information

Road and Rail Transport

Not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in; packages 500kg(L) or less; or IBCs (refer to SP AU01).

Marine Transport:

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN Number: 3082

Proper Shipping Name or ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CONTAINS 2,4-D

Technical Name: present as 2-ethylhexyl ester)

Transport Hazard Class: 9

Packaging Group: III

IMDG EMS Fire: F - A

IMDG EMS Spill: S - F

Environmental hazards: Yes. Marine Pollutant: 2,4-D present as 2-ethylhexyl ester

Additional Information: The marine pollutant mark is not required when transported in sizes of ≤ 5 L or ≤ 5 kg.

Air Transport:

IATA provision SP A197: Environmentally Hazardous Substances meeting the description of UN 3077 or UN 3082 are not subject to this Code when transported air in; packages that have inner packages (plastic bottles, glass bottles, plastic bags) of 5 L for UN3082 and 5 kg for UN3077 or less.

Section 15 - Regulatory Information

APVMA Approval no.: 69247

Poison schedule (SUSMP): Schedule 6

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AICIS: All the constituents of this material are either listed on the Australian Inventory of Industrial Chemicals (AIIC), not required due the nature of the chemical as they are excluded as an industrial chemical (being regulated by the APVMA) or have been assessed under the Industrial Chemicals Act 1989 as amended.

Section 16 - Other Information

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

Issue Date: 18 July 2024

Reason(s) for issue: SDS updated to latest GHS requirements.

Key references:

US EPA Reregistration Eligibility Decision for 2,4-D June 2005

Key abbreviations or acronyms:

ADG Code - Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)

AICIS – Australian Industrial Chemicals Introduction Scheme (formerly NICNAS)

AIIC - Australian Inventory of Industrial Chemicals

APVMA – Agricultural Pesticides and Veterinary Medicines Australia

CAS number - Chemical Abstracts Service Registry Number

GHS - Globally Harmonised System of Classification and Labelling of Chemicals (7th revised edition) 2017

Hazchem Code - Emergency action code of numbers and letters that provide information to emergency services especially firefighters.

IARC - International Agency for Research on Cancer

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (June 2023)

STEL - Short term exposure limit means the average airborne concentration of a substance calculated over a 15-minute period. The STEL should not be exceeded at any time during a normal eight hour working day.

SUSMP - Standard for the Uniform Scheduling of Medicines & Poisons

SWA - Safe Work Australia, formerly ASCC and NOHSC

TGA – Therapeutic Goods Australia

TWA - Time-weighted average means the average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

UN Number - United Nations Number

WHS – Workplace Health and Safety

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD STATEMENT: INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS 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 SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" ((June 2023) and GHS Revision 7
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