



Section 1 - Identification of Chemical Product and Company

Ospray Pty Ltd
12 Julius Avenue
North Ryde NSW 2113

Freecall: 1800 624 597 (BH)
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www.ospray.com.au

Chemical nature: Triclopyr is an aryloxyalkanoic acid derivative.
Trade Name: **Ospray Triclopyr 600 Herbicide**
APVMA Code: 59806
Product Use: Agricultural herbicide for use as described on the product label.
Creation Date: **June, 2011**
This version issued: **August, 2013** and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of SWA Australia.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code. However, this is a C1 Combustible Liquid and for storage meets the definition of Dangerous Goods.

Risk Phrases: R22. Harmful if swallowed.

Safety Phrases: S20, S23, S37, S45, S24/25. When using, do not eat or drink. Do not breathe vapours or mists. Wear suitable gloves. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show the label where possible). Avoid contact with skin and eyes.

SUSMP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good under the ADG Code.

UN Number: None allocated

Emergency Overview

Physical Description & colour: Clear, dark amber liquid.

Odour: Characteristic odour.

Major Health Hazards: The oral LD₅₀ of Triclopyr in rats ranges from 630 to 729 mg/kg, and is over 2000 mg/kg for various amine and ester formulated products. The dermal LD₅₀ for the technical material in rabbits is greater than 2000 mg/kg, and greater than 4000 mg/kg for the formulations. Inhalation of Triclopyr did not affect rats, but inhalation of some of the formulations did cause nasal irritation. These data indicate Triclopyr is harmful. Product is believed to be harmful if swallowed.

Potential Health Effects

Inhalation

Short term exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

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

Skin Contact:

Short term exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short term exposure: This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

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

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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: No significant ingredient is classified as carcinogenic by IARC.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Triclopyr (present as the butoxyethyl ester)	55335-06-3	600g/L	not set	not set
Other non hazardous ingredients	secret	to 1200g/L	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The 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.

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 MSDS with you when you call.

Inhalation: No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

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

Eye Contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

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

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: This product is classified as a C1 combustible product. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

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

Flash point: 95°C

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: C1

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber. 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 A cartridge, suitable for organic vapours. 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. 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

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specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. 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.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS 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: Note that 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.

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.

Section 8 - Exposure Controls and Personal Protection

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/m³)** **STEL (mg/m³)**

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

The ADI for Triclopyr (present as the butoxyethyl ester) is set at 0.005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken 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.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: rubber.

Respirator: 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.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear, dark amber liquid.
Odour:	Characteristic odour.
Boiling Point:	Initial boiling point about 150°C at 100kPa
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	1.32 x 10 ⁻⁵ kPa at 33°C (active ingredient)
Vapour Density:	No data.
Specific Gravity:	1.120-1.120
Water Solubility:	Emulsifiable.
pH:	4.0-7.0
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	No data

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Autoignition temp: No data.

Section 10 - Stability and Reactivity

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.

Conditions to Avoid: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong oxidising agents.

Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas. Water.

Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

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

Acute toxicity: The oral LD₅₀ of Triclopyr in rats ranges from 630 to 729 mg/kg, and is over 2000 mg/kg for various amine and ester formulated products. Other oral LD₅₀ values for Triclopyr are 550 mg/kg in the rabbit and 310 mg/kg in the guinea pig. Inhalation of Triclopyr did not affect rats, but inhalation of some of the formulations did cause nasal irritation. A similar result was seen when rabbit eyes were exposed. The technical material had only a slight effect on rabbit eyes, while some formulations caused significant eye irritation.

Chronic toxicity: Rats fed diets containing between 3 and 30 mg/kg/day of Triclopyr experienced no ill effects. Male rats fed much higher doses (100 mg/kg/day) had decreased liver and body weight and increased kidney weight. Male mice also showed reduced liver weight but at 60 mg/kg/day. Monkeys fed smaller doses of Triclopyr (20 mg/kg/day) showed no adverse effects.

Reproductive effects: Triclopyr fed to rabbits on days 6 to 18 of gestation at doses of 25, 50, and 100 mg/kg/day produced no effects on maternal body weight, litter size, or foetal body weight. Triclopyr does not appear to cause reproductive toxicity.

Teratogenic effects: Pregnant rats given moderate to high doses of 50, 100, and 200 mg/kg/day on days 6 to 15 of gestation had offspring with mild foetotoxicity, but no birth defects. These data suggest that Triclopyr is not teratogenic.

Mutagenic effects: Triclopyr is nonmutagenic in bacterial and cytogenetic assay systems. Based on these data, Triclopyr is unlikely to be mutagenic.

Carcinogenic effects: Rats and mice fed oral doses of Triclopyr at 3 to 30 mg/kg/day for 2 years showed no carcinogenic response. Based on these data, Triclopyr is unlikely to be carcinogenic.

Organ toxicity: Organs affected by exposure to Triclopyr include the kidneys and liver.

Fate in humans and animals: Data from animal studies indicate that Triclopyr is rapidly eliminated via the urine as the unchanged parent compound. At higher oral doses, some Triclopyr may be eliminated through the faeces as the absorption capacity of the intestine is exceeded. Reported half-lives for elimination of Triclopyr from mammals are 14 hours (dog) and <24 hours (monkeys).

Section 12 - Ecological Information

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on birds: Triclopyr is slightly to practically nontoxic to birds. The LD₅₀ of the parent compound in the mallard duck is 1698 mg/kg, while the formulated compounds are of lower toxicity. The LC₅₀ in bobwhite quail and Japanese quail fed Triclopyr for 8 days are 2935 ppm and 3278 ppm, respectively.

Effects on aquatic organisms: The parent compound and amine salt are practically nontoxic to fish. The compound is practically nontoxic to the aquatic invertebrate *Daphnia magna*, a water flea, with a reported LC₅₀ for the amine salt of 1170 mg/L. The ester formulation has reported 96-hour LC₅₀ values of 0.74 mg/L and 0.87 mg/L in the rainbow trout and bluegill sunfish, respectively. The compound has little if any potential to accumulate in aquatic organisms.

Effects on other organisms: The compound is nontoxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: In natural soil and in aquatic environments, the ester and amine salt formulations rapidly convert to the acid, which in turn is neutralised to a relatively nontoxic salt. It is effectively degraded by soil microorganisms and has a moderate persistence in soil environments.

Breakdown in water: Triclopyr is not readily hydrolysed at pH 5 to 9. Hydrolysis of the ester and the amine salt occurs rapidly and results in formation of Triclopyr. Reported half-lives in water are 2.8 to 14.1 hours, depending on season and depth of water.

Breakdown in vegetation: Triclopyr is readily translocated throughout a plant after being taken up by either roots or the foliage. The estimated half-life in above ground drying foliage as in a forest overstory is 2 to 3 months.

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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

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredient: Triclopyr is mentioned in the SUSMP.

Section 16 - Other Information

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
AICS	Australian Inventory of Chemical Substances
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
SWA	Safe Work Australia, formerly ASCC and NOHSC
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 MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS 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 MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]
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