

Section 1 - Identification of The Material and Supplier

FMC Australasia Pty Ltd
12 Julius Ave
North Ryde, NSW 2113

Emergency: 1800 033 111 (24 hours - Australia wide)
Freecall 1800 624 597 (business hours)
www.fmccrop.com.au

Chemical nature: Active ingredient is a 2-(4-aryloxyphenoxy)propionic acid derivative.

Trade Name: Fuzilier Selective Herbicide

APVMA Code: 61355

Product Use: Agricultural herbicide for use as described on the product label.

Creation Date: July, 2016

This version issued: September, 2016 and is valid for 5 years from this date.

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Hazardous according to the criteria of SWA.

Not subject to the ADG Code when transported in Australia by Road or Rail in packages 500kg(L) or less; or IBCs (refer to SP AU01). However if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG/IMSBC respectively. See details below and in Section 14 of this SDS.

SUSMP Classification: S6

ADG Classification: Class 9: Miscellaneous Dangerous Goods.

UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.



GHS Signal word: DANGER

Flammable liquids Category 4

Aspiration Hazard Category 1

Hazardous to aquatic environment Short term/Acute Category 1

HAZARD STATEMENT:

H227: Combustible liquid.

AUH066: Repeated exposure may cause skin dryness or cracking.

H304: May be fatal if swallowed and enters airways.

H361: Suspected of damaging fertility or the unborn child.

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

PREVENTION

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.

P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

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

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

P271: Use only outdoors or in a well ventilated area.

P273: Avoid release to the environment.

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

RESPONSE

P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

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

P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

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P390: Absorb spillage to prevent material damage.

P391: Collect spillage.

P370+P378: In case of fire, use foam. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used.

STORAGE

P405: Store locked up.

P410: Protect from sunlight.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

DISPOSAL

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

Emergency Overview

Physical Description & Colour: Clear, dark amber coloured liquid

Odour: Characteristic liquid hydrocarbon odour.

Major Health Hazards: Fluazifop-p-butyl is not harmful orally or dermally. It is reported to cause only slight skin and mild eye irritation in rabbits, and no skin sensitization in guinea pigs. If aspirated, may cause lung damage, repeated exposure may cause skin dryness or cracking.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Fluazifop-p as the butyl ester	79241-46-6	212g/L	not set	not set
Solvent naphtha (petroleum), light arom.	64742-95-6	685g/L	not set	not set
Other non hazardous ingredients	secret	to 100	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 SWA 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 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: Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water 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 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.

Section 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 little risk of an explosion from this product if commercial quantities are 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 are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.

Extinguishing Media: In case of fire, use foam. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

Flash point: 70°C

Upper Flammability Limit: 7%

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Lower Flammability Limit: 0.6%
Autoignition temperature: 260°C
Flammability Class: Flammable Category 4 (GHS), C1 combustible (AS 1940)

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Immediately call the Fire Brigade. No special protective clothing is normally necessary because of this product. However it is good practice to wear overalls, goggles and gloves when handling chemicals. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. 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 cartridge suitable for agricultural chemicals, such as type G. 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. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. 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. 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 SDS 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 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. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. 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 Fluazifop is set at 0.003mg/kg/day. The corresponding NOEL is set at 0.3mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2014.

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: Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

Skin Protection: The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

Protective Material Types: There is no data that enables us to recommend any type except that it should be impermeable. rubber, PVC.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

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Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear, dark amber coloured liquid
Odour:	Characteristic liquid hydrocarbon odour.
Boiling Point:	Solvent boils about 230-280°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:	Negligible at normal ambient temperatures.
Vapour Density:	No data.
Specific Gravity:	1.04 at 20°C
Water Solubility:	Emulsifiable.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	260°C

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: Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated. Protect this product from light.

Incompatibilities: strong oxidising agents.

Fire Decomposition: 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. May form hydrogen fluoride gas and other compounds of fluorine. 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.

Section 11 - Toxicological Information

Toxicity: The reported acute oral LD₅₀ values for technical fluazifop-p-butyl are 3680 to 4096 mg/kg in male rats, and 2451 to 2721 mg/kg in female rats. The reported acute oral LD₅₀ values for one formulated product (Fusilade DX) are higher, indicating practically no toxicity orally. A single large oral dose of a formulated compound (Fusilade 2000) can cause severe stomach and intestine disturbance. Ingestion of large quantities may also cause problems in the central nervous system such as drowsiness, dizziness, loss of coordination, and fatigue. Fluazifop-p-butyl is not harmful via the dermal route as well. The reported dermal LD₅₀ for the compound is greater than 2400 mg/kg in rabbits. The formulation Fusilade DX is reported to have similar acute toxicity via the dermal route, and does not cause skin sensitization in guinea pigs, but may cause moderate skin and mild eye irritation in rabbits. The formulation Fusilade DX is reported to have an 4-hour inhalation LC₅₀ of greater than 0.54 mg/L in male rats and 0.77 mg/L in female rats, indicating moderate toxicity via the inhalation route. Breathing small amounts of the product Fusilade 2000 may cause vomiting and severe lung congestion; larger amounts may ultimately lead to labored breathing, coma, and death.

Chronic toxicity: Rats fed small amounts of fluazifop-p-butyl for 90 days developed no compound-induced effects at doses at or below 10 mg/kg/day.

Reproductive effects: No data are currently available.

Teratogenic effects: No data are currently available.

Mutagenic effects: Numerous tests have shown the compound to be nonmutagenic.

Carcinogenic effects: No data are currently available.

Organ toxicity: Organ toxicity has not been seen in experimental animals.

Fate in humans and animals: No data are currently available. There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Fluazifop-p Butyl Ester	Conc>=5%: Xn; R63
<ul style="list-style-type: none"> Reproductive toxicity - category 2 	

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- Hazardous to the aquatic environment (acute) - category 1
 - Hazardous to the aquatic environment (chronic) - category 1
- Solvent Naphtha (petroleum), Light Arom. $\geq 0.1\% \text{ Conc} < 10\%$: T; R45; R46
- Aspiration hazard - category 1

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 mildly irritating, but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.

Long Term Exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:

Short Term Exposure: This product may be mildly irritating to eyes, but is unlikely to cause anything more than mild discomfort which should disappear once product is removed.

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

Ingestion:

Short Term Exposure: This product may be mildly irritating to mucous membranes but is unlikely to cause anything more than mild 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.

NTP: No significant ingredient is classified as carcinogenic by NTP.

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

Section 12 - Ecological Information

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

Effects on birds: Fluazifop-p-butyl is practically nontoxic to bird species; the reported acute oral LD₅₀ for the technical product in mallards is greater than 3528 mg/kg. The reported 5-day dietary LC₅₀ in mallard duck is greater than 4321 ppm, and in bobwhite quail is greater than 4659 ppm.

Effects on aquatic organisms: Fluazifop-p-butyl may be highly to moderately toxic to fish, but only slightly toxic to other aquatic species, such as invertebrates. The reported 96-hour LC₅₀ values for the technical product in fish species are 0.53 mg/L in bluegill sunfish and 1.37 mg/L in rainbow trout, indicating very high to high toxicity. The 48-hour LC₅₀ in *Daphnia magna* is reported as greater than 10 mg/L, indicating only slight toxicity.

Effects on other organisms: The compound is of low toxicity to bees. Oral and contact LD₅₀ values for bees are greater than 0.20 mg/bee.

Environmental Fate:

Breakdown in soil and groundwater: Fluazifop-p-butyl is of low persistence in moist soil environments, with a reported half-life in these conditions of less than 1 week. Fluazifop-p-butyl breaks down rapidly in moist soils to the fluazifop acid, which is also of low persistence. Fluazifop-p-butyl and fluazifop-p are both reported to be of low mobility in soils and not to present appreciable risks for groundwater contamination. The reported soil adsorption coefficient for fluazifop-p indicates a moderate to low affinity for soil.

Breakdown in water: Fluazifop-p-butyl is rapidly hydrolyzed (cleaved apart by water) under most conditions to the fluazifop acid. It is relatively stable to breakdown by UV or sunlight, and nonvolatile.

Breakdown in vegetation: After uptake by the leaves of plants, Fluazifop-p-butyl is rapidly broken down in the presence of water to fluazifop-p, which is translocated throughout the plant. The compound accumulates in the actively growing regions of the plant (meristems of roots and shoots, root rhizomes and stolons of grass), where it interferes with energy (ATP) production and cell metabolism in susceptible species.

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

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Issued by: FMC Australasia Pty Ltd

Emergency: 1800 033 111 (24 hours - Australia wide)

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)

disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

Section 14 - Transport Information

Not subject to the ADG Code when transported by Road or Rail in Australia, in packages 500kg(L) or less; or IBCs, but classed as Dangerous by IATA and IMDG/IMSBC when carried by Air or Sea transport (see details below).

UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Hazchem Code: •3Z

Special Provisions: 179, 274, 331, 335, AU01

Limited quantities: ADG 7 specifies a Limited Quantity value of 5 L for this class of product.

Dangerous Goods Class: Class 9: Miscellaneous Dangerous Goods.

Packing Group: III

Packing Instruction: P001, IBC03, LP01

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredient: Fluazifop-p butyl ester, is mentioned in the SUSMP.

Section 16 - Other Information

This SDS 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 (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
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
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 SDS 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 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" (December 2011)

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