

## SECTION 1 - IDENTIFICATION OF CHEMICAL PRODUCT AND COMPANY

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**Substance:** Active ingredient is a member of the diphenyl ether group of herbicides.  
**Trade Name:** **Blazer Selective Herbicide**  
**Product Use:** Agricultural herbicide for use as described on the product label.  
**Creation Date:** **January, 2005**  
**This version issued:** **February, 2010** and is valid for 5 years from this date.

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of SWA Australia.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** Not Hazardous - No criteria found.

**Safety Phrases:** S24/25. Avoid contact with skin and eyes.

**SUSDP Classification:** S6

**ADG Classification:** None allocated. Not a Dangerous Good.

**UN Number:** None allocated

### Emergency Overview

**Physical Description & colour:** Clear yellow to red liquid.

**Odour:** Sweet odour.

**Major Health Hazards:** no significant risk factors have been found for this product.

### Potential Health Effects

#### Inhalation

**Short term exposure:** Significant inhalation exposure is considered to be unlikely. 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:** 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:** Exposure via eyes is considered to be unlikely. 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. This product is unlikely to cause any irritation problems in the short or long term.

**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.

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## Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Acifluorfen	62476-59-9	22.4	not set	not set
Other non hazardous ingredients	secret	30-60	not set	not set
Water	7732-18-5	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 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 should not be exceeded for more than 15 minutes and should not be repeated for 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:** 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. If in doubt obtain medical advice.

**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.

**Ingestion:** If product is swallowed or gets in mouth, 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:** 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.

**Flash point:** Does not burn.

**Upper Flammability Limit:** Does not burn.

**Lower Flammability Limit:** Does not burn.

**Autoignition temperature:** Not applicable - does not burn.

**Flammability Class:** Does not burn.

## 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, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, 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. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

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 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.

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## 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:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. Store packages of this product in a cool place. 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.

## 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**, Industrial Clothing: **AS2919**, 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.

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, PVC.

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

## Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	Clear yellow to red liquid.
<b>Odour:</b>	Sweet odour.
<b>Boiling Point:</b>	Above 100°C at 100kPa.
<b>Freezing/Melting Point:</b>	Approximately 0°C.
<b>Volatiles:</b>	Water component.
<b>Vapour Pressure:</b>	2.37 kPa at 20°C (water vapour pressure).
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	1.18 at 20°C
<b>Water Solubility:</b>	Completely soluble in water.
<b>pH:</b>	No data.
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water distribution:</b>	No data
<b>Autoignition temp:</b>	Not applicable - does not burn.

## 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:** This product should be kept in a cool place, preferably below 30°C. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** acids, strong oxidising agents.

**Fire Decomposition:** This product is likely to decompose only after heating to dryness, followed by further strong heating. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds,

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and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas. Hydrogen chloride gas, other compounds of chlorine. Hydrogen fluoride gas and other compounds of fluorine. Water, sodium compounds. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. Hydrogen cyanide poisoning signs and symptoms are weakness, dizziness, headache, nausea, vomiting, coma, convulsions, and death. Death results from respiratory arrest. Hydrogen cyanide gas acts very rapidly; symptoms and death can both occur quickly.

**Polymerisation:** This product will not undergo polymerisation reactions.

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## Section 11 - Toxicological Information

**Chronic toxicity:** Male and female rats fed high daily doses for 4 weeks showed decreased food consumption and increased liver and kidney weights. In a 1-year study of rats fed lower doses, both sexes experienced decreased body weight and increased liver weight. In a 2-year study, beagle dogs fed high daily doses of acifluorfen showed irregular heart rhythms. In addition, there were some blood changes and an increase in liver and kidney weights.

**Reproductive effects:** No adverse effects were observed in rodents or their offspring when the parents were fed daily doses of acifluorfen well below lethal levels. Body weights, food consumption, fertility, and pregnancy were comparable in both treated and untreated animals. However, in another rat study, at higher doses, both parents and offspring suffered kidney lesions and death. This suggests that levels high enough to cause toxicity in the mother are needed to affect reproduction.

**Teratogenic effects:** Acifluorfen may have teratogenic effects at high doses. In one study, rats were given high doses of sodium acifluorfen through a stomach tube during the critical periods of pregnancy. At these doses, body weights of the foetuses were lower, and bone development was delayed. Teratogenic effects in humans are unlikely at expected exposure levels.

**Mutagenic effects:** Various mutagenesis assays of acifluorfen products on both bacteria and mammalian cells indicate that they do not cause mutations.

**Carcinogenic effects:** One study of mice fed high doses of acifluorfen for 18 months showed decreases in body weight and increases in both benign and malignant liver tumours. These data are not sufficient to characterize the carcinogenicity of acifluorfen.

**Organ toxicity:** In addition to being a skin and eye irritant, acifluorfen affects the weight and functions of the liver, heart, and kidneys at high doses.

**Fate in humans and animals:** No data are currently available.

**Acifluorfen:** LD<sub>50</sub> Oral, Rat 2025 (male); 1370 (female)mg/kg

LD<sub>50</sub> Dermal, Rabbit >2000mg/kg

LC<sub>50</sub> Inhalation, Rat >6.9mg/L/4hr

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## Section 12 - Ecological Information

**Effects on birds:** Acifluorfen is practically nontoxic to mallards and is moderately toxic to bobwhite quail. The acute oral LD<sub>50</sub> of acifluorfen is 2821 mg/kg in mallards, and 325 mg/kg in bobwhite quail. The range in toxicity to these different species makes any generalizations about its overall toxicity to birds difficult.

**Effects on aquatic organisms:** Acifluorfen is slightly toxic to fish. The LC<sub>50</sub> values for the sodium salt are 31 mg/L in bluegill and 54 mg/L in rainbow trout. It has a low toxicity to crustaceans. The LC<sub>50</sub> (96-hour) in fiddler crabs is greater than 1000 mg/L, and is 150 mg/L in freshwater clams.

Effects on other organisms: Acifluorfen is nontoxic to bees.

### Environmental Fate:

**Breakdown in soil and groundwater:** Acifluorfen is moderately persistent in soils. In one study, acifluorfen applied to a silt loam degraded with a half-life of 59 days. Microbial action accounts for the majority of the compound's loss from soil. No leaching of the chemical below 3 inches was observed.

**Breakdown in water:** Acifluorfen is stable in water; no degradation was observed in laboratory studies lasting up to 28 days. However, when it is exposed to sunlight, it degrades quickly. The half-life under continuous light was 92 hours in water. When it does degrade, the primary breakdown product tends to vaporize.

**Breakdown in vegetation:** In susceptible plants, such as common cocklebur and ragweed, acifluorfen is absorbed through the leaves and roots and is translocated only slightly. It works by inhibiting a critical plant enzyme. In acifluorfen resistant plants like soybeans, no acifluorfen movement from the treated leaves takes place because plants break down acifluorfen into a nontoxic form. High relative humidity favours herbicide penetration into the plant. High temperatures before and after spraying tend to increase susceptibility and death.

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## Section 13 - Disposal Considerations

**Disposal:** Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed.

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## 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.

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## Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are to be found in the public AICS Database. Acifluorfen is mentioned in the SUSDP.

## Section 16 - Other Information

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

### Acronyms:

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Number</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSDP</b>	Standard for the Uniform Scheduling of Drugs & Poisons
<b>UN Number</b>	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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## MATERIAL SAFETY DATA SHEET