Section 1 - Identification of The Material and Supplier

PCT Holdings Pty Ltd
51 Prosperity Place
Park Ridge QLD 4125
AUSTRALIA

Chemwatch Emergency Response (24/7)
Emergency phone: +61 1800 951 288 (for AUS SDS)
Emergency phone: +64 800 700 112 (for NZ SDS)
General enquiries: +61 1800 630 877

Chemical nature:	Bromoxynil is a hydroxybenzonitrile derivative; MCPA is an aryloxyalkanoic acid derivative. In a liquid hydrocarbon solvent.
Trade Name:	**Surefire Buffalo, Bindi & Broadleaf Weedkiller**
APVMA Code:	80024
Product Use:	Agricultural herbicide for use as described on the product label.
Creation Date:	**June, 2015**
This version issued:	**March, 2025** 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

SUSMP Classification: S7
ADG Classification: Class 9: Miscellaneous Dangerous Goods.
UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

GHS Signal word: WARNING

Flammable liquids Category 4
Acute Toxicity Oral Category 4
Skin Irritation Category 2
Skin Sensitisation Category 1
Eye irritation Category 2A
Acute Toxicity Inhalation Category 4
Reproductive Toxicity Category 2
Hazardous to aquatic environment Short term/Chronic Category 1

HAZARD STATEMENT:

H227: Combustible liquid.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H361d: Suspected of damaging the unborn child.
H410: Very toxic to aquatic life with long lasting effects.

PREVENTION

P102: Keep out of reach of children.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
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.
P264: Wash contacted areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.

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

RESPONSE

P362: Take off contaminated clothing and wash before reuse.
P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of soap and 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.
P333+P313: If skin irritation or rash occurs: Get medical advice.
P337+P313: If eye irritation persists: Get medical advice.
P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog.

STORAGE

P410: Protect from sunlight.
P402+P404: Store in a dry place. Store in a closed container.
P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

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

Emergency Overview

Physical Description & Colour: Brown to amber coloured liquid.
Odour: Characteristic odour.
Major Health Hazards: may cause serious damage to eyes, harmful by inhalation and if swallowed, skin irritant, possible skin sensitiser, possible risk of harm to the unborn child.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m^3)	STEL (mg/m^3)
Bromoxynil as the n-octanoyl ester	1689-99-2	200g/L	not set	not set
MCPA as the ethyl hexyl ester	29450-45-1	200g/L	not set	not set
Liquid hydrocarbon	secret	343g/L	790	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: If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.
Skin Contact: Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.
Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 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. 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: 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. 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.
Extinguishing Media: In case of fire, use 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. Cool closed, undamaged containers exposed to fire with water spray.
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. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. No special recommendations for clothing materials. 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. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). 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 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: Note that this product is GHS Flammable Class 4 and therefore, for Storage, meets the definition of Dangerous Goods. 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.
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**, 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/m^3)	STEL (mg/m^3)
Liquid hydrocarbon	790	not set

The ADI for Bromoxynil octanoate 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: Protective face shield or goggles must be worn when this product is being used. Failure to protect your eyes may lead to severe harm to them or to general health. Emergency eye wash facilities must also be available in an area close to where this product is being used.
Skin Protection: When preparing the spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow-length PVC gloves.
Protective Material Types: We suggest that protective clothing be made from the following materials: PVC.
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.
Eyebaths or eyewash stations and safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Brown to amber coloured liquid.
Odour:	Characteristic odour.
Boiling Point:	Not available.
Flash point:	>63°C
Upper Flammability Limit:	No data.
Lower Flammability Limit:	No data.
Autoignition temperature:	No data.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	No data.
Water Solubility:	Emulsifiable.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Particle Characteristics:	Not applicable to liquids.

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: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
Incompatibilities: strong acids, strong bases, 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 chloride gas, other compounds of chlorine. Bromine compounds. 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

Local Effects:
Target Organs: There is no data to hand indicating any particular target organs.

Bromoxynil is a SWA Class 3 Reproductive risk, possible risk of harm to the unborn child.
Bromoxynil is Classed by SWA as a potential sensitiser by skin contact.

Classification of Hazardous Ingredients

Ingredient	
Bromoxynil Octanoate	H361d, H331, H302, H317, H410

- Reproductive toxicity – category 2

- Acute toxicity – category 3
- Acute toxicity – category 4
- Skin sensitisation – category 1
- Hazardous to the aquatic environment (chronic) – category 1
- Hazardous to the aquatic environment (acute) – category 1

MCPA, salts and esters of H332, H312, H302, H410

- Acute toxicity – category 4
- Acute toxicity – category 4
- Acute toxicity – category 4
- Hazardous to the aquatic environment (acute) – category 1
- Hazardous to the aquatic environment (chronic) – category 1

Acute toxicity: Technical Bromoxynil has an oral LD_{50} of 190 mg/kg in rats, an LD_{50} of 260 mg/kg in rabbits, and an LD_{50} of 63 mg/kg in guinea pigs, indicating moderate acute toxicity. The dermal LD_{50} of Bromoxynil is greater than 2000 mg/kg in rabbits. The compound is a slight eye irritant but it is not a skin irritant in rabbits. However, when in contact with abraded skin, Bromoxynil may produce a mild irritation.
Chronic toxicity: In one documented case of chronic exposure (about 1 year) of humans to Bromoxynil, workers showed symptoms of weight loss, fever, vomiting, headache, and urinary problems. Studies have shown that Bromoxynil has no effect on rats given dietary doses of 15 and 50 mg/kg/day for 90 days. Doses up to 5 mg/kg/day for 2 years had no impact on blood chemistry or urine.
Reproductive effects: No changes in reproduction were noted in female rats fed 15 mg/kg/day of Bromoxynil over three generations. This suggests that Bromoxynil does not cause reproductive effects.
Teratogenic effects: Bromoxynil is a suspected teratogen. The compound produced birth defects in rats at oral doses above 35 mg/kg. Toxic effects included abnormal rib formation and reduced foetal weight. Newborn rabbits had birth defects when Bromoxynil was administered to pregnant mothers at doses above 30 mg/kg. In the rabbit, birth defects included changes in bone formation in the skull and hydrocephaly.
Mutagenic effects: No data are currently available.
Carcinogenic effects: Rats fed Bromoxynil at low levels of 5 mg/kg and below did not develop any cancer related effects.
Organ toxicity: No data were available regarding the target organs affected by Bromoxynil.
Fate in humans and animals: No Bromoxynil was present in the milk or faeces of cows 9 days after exposure to low doses of the herbicide. Less than 20% of the compound was excreted in urine as the parent compound.
MCPA offers a lower level of risk that Bromoxynil

Potential Health Effects

Persons sensitised to Bromoxynil should avoid contact with this product.

Inhalation:

Short Term Exposure: Available data shows that this product is harmful, but symptoms are not available. In addition 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: Classified as a potential sensitiser by skin contact. 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. In addition product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.
Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is a severe eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms such as swelling of eyelids and blurred vision may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment is likely to cause permanent damage.
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 is an oral irritant. 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.

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

Effects on birds: Bromoxynil is highly toxic to pheasants (LD_{50} of 50 mg/kg) and is moderately toxic to hens (LD_{50} of 240 mg/kg), quail (LD_{50} of 100 mg/kg), and mallard ducks (LD_{50} of 200 mg/kg).

Effects on aquatic organisms: Bromoxynil is very highly toxic to moderately toxic to freshwater fish; the potassium salt of Bromoxynil has an LC_{50} of 5.0 mg/L in harlequin fish, 0.46 mg/L in goldfish, and 0.063 mg/L in catfish. Bromoxynil has an LC_{50} of 0.05 mg/L in rainbow trout.

Effects on other organisms: Bromoxynil is not toxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: Bromoxynil has a low persistence in soil. In sandy soil, the half-life is about 10 days. Degradation in clay was slower, with half of the Bromoxynil degraded to its metabolites in about a 2-week period at 25°C. The persistence of the compound is also slightly longer in peat field soils than in the sandy soils. The evidence suggests that, while Bromoxynil is broken down by some soil bacteria, it may inhibit the action of other bacteria that promote the formation of nitrite by a process called nitrification.

Breakdown in water: No data are currently available.

Breakdown in vegetation: The herbicide works by disrupting the plants ability to produce energy for cell-related activities. It is not readily translocated throughout the plant once it has been absorbed.

MCPA offers a lower level of risk that Bromoxynil

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

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

AIIC: All of the significant ingredients in this formulation are compliant with AICIS regulations.
The following ingredients: Bromoxynil octanoate, Liquid hydrocarbon, are mentioned in the SUSMP.

Section 16 - Other Information

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

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” (July 2020) and GHS Revision 7

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