

## Section 1 - Identification of the Material and Supplier

**Chemical nature:** Bromoxynil and MCPA as esters in a suitable solvent system.  
**Trade Name:** **Amgrow Buffalo Lawn Weeder**  
**APVMA Code:** 68725  
**Product Use:** Selective herbicide to control bindii, clover and other broadleaf weeds in buffalo lawns.

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**Creation Date:** May, 2016  
**This version issued:** May, 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. Xi, Irritating. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

**SUSMP Classification:** S6

**ADG Classification:** None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

**UN Number:** None allocated



### GHS Signal word: WARNING

Flammable liquids Category 4  
Acute Toxicity Oral Category 4  
Skin Corrosion /Irritation Category 2  
Skin Sensitisation Category 1  
Serious eye damage/eye irritation Category 2B  
Acute Toxicity Inhalation Category 4  
Specific Target Organ Toxicity - Single Exposure Category 3  
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.  
H320: Causes eye irritation.  
H332: Harmful if inhaled.  
H335: May cause respiratory irritation.  
H361: Suspected of damaging fertility or 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.

## SAFETY DATA SHEET

- 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.  
P308+P313: If exposed or concerned: Get medical advice.  
P333+P313: If skin irritation or rash occurs: Get medical advice.  
P337+P313: If eye irritation persists: Get medical advice.  
P391: Collect spillage.  
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 small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

### Emergency Overview

**Physical Description & Colour:** Dark Brown liquid.

**Odour:** Characteristic solvent odour.

**Major Health Hazards:** harmful by inhalation and if swallowed, irritating to eyes and skin, possible skin sensitiser, possible risk of harm to the unborn child.

### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Bromoxynil as the octanoate	1689-99-2	200g/L	not set	not set
MCPA as the 2-ethylhexyl ester	29450-45-1	200g/L	not set	not set
Liquid hydrocarbon	secret	343g/L	790	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.

### SAFETY DATA SHEET

**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.

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:** 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.

**Flash point:** 75°C

**Upper Flammability Limit:** 7.0%

**Lower Flammability Limit:** 0.6%

**Autoignition temperature:** Does not burn.

**Flammability Class:** Flammable Category 4 (GHS), C1 combustible (AS 1940)

## Section 6 - Accidental Release Measures

**Accidental release:** This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

## 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<sup>3</sup>)

### STEL (mg/m<sup>3</sup>)

Liquid hydrocarbon

790

not set

The ADI for Bromoxynil 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.

## SAFETY DATA SHEET

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 glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

**Skin Protection:** If you believe you may have a sensitisation to this product or any of its declared ingredients, you should prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**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:

<b>Physical Description &amp; colour:</b>	Dark Brown liquid.
<b>Odour:</b>	Characteristic solvent odour.
<b>Boiling Point:</b>	Approximately 190-270°C at 100kPa.
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures.
<b>Volatiles:</b>	No specific data. Expected to be low at 100°C.
<b>Vapour Pressure:</b>	No data.
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	1.07-1.09
<b>Water Solubility:</b>	Emulsifiable.
<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>	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:** Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** strong oxidising agents.

**Fire Decomposition:** This product is likely to decompose only after heating to dryness, followed by further strong heating. 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.

### SAFETY DATA SHEET



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## Classification of Hazardous Ingredients

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Ingredient	Risk Phrases
Bromoxynil	>=5%Conc<25%: Xn; R63; R20; R43

- Reproductive toxicity - category 2
- Acute toxicity - category 3
- Acute toxicity - category 4
- Skin sensitisation - category 1
- Hazardous to the aquatic environment (acute) - category 1
- Hazardous to the aquatic environment (chronic) - category 1

**Acute toxicity:** Bromoxynil: LD<sub>50</sub> Oral (Rat) = 190mg/kg; LD<sub>50</sub> Oral (Rabbit) = 260mg/kg; LD<sub>50</sub> Oral (Guinea pig) = 63mg/kg. LD<sub>50</sub> Dermal (Rabbit) >2000mg/kg. MCPA: LD<sub>50</sub> Oral (Rat) = 700-1160mg/kg; LD<sub>50</sub> Oral (mouse) = 550-800mg/kg; LD<sub>50</sub> Dermal (Rabbit) >4000mg/kg

**Chronic toxicity:** Bromoxynil: Studies have shown that 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.

MCPA - Dietary levels of approximately 50 mg/kg/day and 125 mg/kg/day over 7 months caused reduced feeding rates and retarded growth rates in rats.

**Reproductive effects:** Bromoxynil No changes in reproduction were noted in female rats fed 15 mg/kg/day of over three generations. This suggests that Bromoxynil does not cause reproductive effects. MCPA - A two-generation rat study at doses of up to 15 mg/kg/day affected reproductive function. It is unlikely that humans will experience these effects under normal exposure conditions.

**Teratogenic effects:** Bromoxynil is a suspected teratogen. The compound produced birth defects in rats at oral doses above 35 mg/kg. Newborn rabbits had birth defects when Bromoxynil was administered to pregnant mothers at doses above 30 mg/kg. Teratogenic effects in humans are unlikely at expected exposure levels. MCPA was fed to pregnant rats (2 to 100 mg/kg/day on days 8 to 15 of gestation) - cleft palate, heart defect, and kidney anomalies were observed in the offspring. Teratogenic effects in humans are unlikely at expected exposure levels.

**Mutagenic effects:** Bromoxynil - No data currently available. MCPA - It appears that the compound poses little or no mutagenic risk.

**Organ toxicity:** No data were available regarding the target organs affected by bromoxynil.

MCPA - Target organs identified in animal studies include the liver, kidneys, spleen and thymus. Farm worker exposure has resulted in reversible anemia, muscular weakness, digestive problems, and slight liver damage

**Fate in humans and animals:** No Bromoxynil was present in the milk or feces 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 is rapidly absorbed and eliminated from mammalian systems. In a rat study, three quarters of the dose was eliminated within 2 days. All was gone by the 8 days. Humans excreted about half of a 5 mg dose in the urine within a few days. No residues were found after day 5. Cattle and sheep fed low to moderate doses of MCPA in the diet for 2 weeks showed no residues from levels less than about 18 mg/kg.

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## Potential Health Effects

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**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 an eye irritant. 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 should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

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

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## SAFETY DATA SHEET

**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**

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

**Effects on birds:** Bromoxynil is highly toxic to pheasants, moderately toxic to hens, quail and ducks: LD<sub>50</sub> Oral (Pheasant) = 50mg/kg; LD<sub>50</sub> Oral (hen) = 240mg/kg; LD<sub>50</sub> Oral (quail) = 100mg/kg; LD<sub>50</sub> Oral (mallard duck) = 200mg/kg. MCPA is moderately toxic to wildfowl; LD<sub>50</sub> Oral (bobtail quail) = 377mg/kg

**Effects on aquatic organisms:** Bromoxynil is very highly toxic to moderately toxic to freshwater fish; LC<sub>50</sub> (rainbow trout) = 0.05 mg/L. MCPA is only slightly toxic to freshwater fish, LC<sub>50</sub> (rainbow trout) = 117-232 mg/L, MCPA is practically nontoxic to freshwater invertebrates, and estuarine and marine organisms.

**Effects on other organisms:** Bromoxynil and MCPA are 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. MCPA and its formulations are rapidly degraded by soil microorganisms and it has low persistence, with a reported field half-life of 14 days to 1 month, depending on soil moisture and soil organic matter.

**Breakdown in water:** Bromoxynil - No data currently available. MCPA - It is relatively stable to light breakdown, but can be rapidly broken down by microorganisms.

**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 is readily absorbed and translocated in most plants. It works by concentrating in the actively growing regions of a plant (meristematic tissue), where it interferes with protein synthesis, cell division, and ultimately the growth of non-resistant plants. It is actively broken down in plants.

**Section 13 - Disposal Considerations**

**Disposal:** Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

**Section 14 - Transport Information**

**UN Number:** This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. 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 ingredients: Bromoxynil, MCPA, Liquid hydrocarbon, are mentioned in the SUSMP.

**Section 16 - Other Information**

This SDS 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 (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</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>NOS</b>	Not otherwise specified

**SAFETY DATA SHEET**



<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>UN Number</b>	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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## SAFETY DATA SHEET