



## SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

ARYSTA LifeScience South Africa (Pty) Ltd  
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Substance: mcpa.  
 Product Name: **PURE LAWN**  
 Product Use: Herbicide  
 Creation Date: December 2010  
 Revision Date: August 2017

### 24 Hr Emergency Number:

#### In case of Poisoning:

Poisons Helpline 0861 555 777

#### In case of Spillage:

HAZMAT: 0800 147 112

## SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: MCPA  
 Chemical Name: (4-chloro-2-methylphenoxy)acetic acid (IUPAC)  
 CAS No.: 94-74-6  
 Chemical family: phenoxy-carboxylic acid  
 Chemical formula:  $C_9H_9ClO_3$   
 Molecular weight: 200.6

Ingredient: MCPA-potassium (MCPA phenoxy compound as potassium salt)  
 CAS No.: 5221-16-9  
 Chemical family: phenoxy-carboxylic acid  
 Chemical formula:  $C_9H_8ClKO_3$   
 Molecular weight: 238.7

Use: Synthetic auxin (acting like indolylacetic acid). Selective, systemic, hormone-type herbicide, absorbed by the leaves and roots, with translocation. Concentrates in the meristematic regions, where it inhibits growth. Mainly controls broadleaf weeds in crops e.g sugar cane, barley, wheat, potatoes, sorghum.

Formulation: MCPA (Potassium salt) (phenoxy acetic salt):  
 400 g/l; Soluble Concentrate

#### Hazardous ingredients of toxicological concern:

Inert:	concern:	% present:
MCPA-potassium	harmful, environmental hazard	> 40 %
water	harmful	± 60 %

Symbols: Xn, N

Risk-phrase(s): R21/22, R36/38, R41, R52

## SECTION 3 - HAZARD IDENTIFICATION

#### Likely routes of exposure:

Harmful if swallowed, inhaled or absorbed through the skin.

**Skin:** May cause mild irritation. May cause mild sensitization to some individuals.

**Eye contact:** May cause severe irritation to eyes, with cornea injury.

**Ingestion:** Minimally toxic. Harmful if swallowed. May cause irritation of the gastrointestinal tract. Excessive exposure may cause nausea, vomiting, abdominal cramps and diarrhea. May cause liver, kidney, gastrointestinal and muscle effects.

**Inhalation:** Minimally toxic. Harmful if inhaled.

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## SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

### **Inhalation:**

Remove source of contamination, or move victim to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. If breathing is difficult, a qualified person should administer oxygen. Get medical attention immediately if effects persist.

### **Skin contact:**

Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with cold water and non-abrasive soap. Do not rub the skin. If irritation persists, obtain medical attention.

### **Eye contact:**

Immediately flush the eyes with clean, gently flowing cold water for 20 minutes, holding the eyelid(s) open. If irritation persists, obtain medical attention.

### **Ingestion:**

Have victim rinse mouth thoroughly with water. Do not induce vomiting. Seek medical advice immediately, showing container and label. Give water to drink, 1 to 2 glasses. Never give anything by mouth to an unconscious person.

### **Advice to physician:**

No specific antidote is available. Treat symptomatically and supportively as and when required. Gastric lavage could be considered. Give oxygen if respiration is depressed.

## SECTION 5 - FIRE-FIGHTING MEASURES

### **Fire and explosion hazard:**

**Flash point:** None – water based. Not flammable.

### **Extinguishing agents:**

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.

### **Hazardous products of combustion:**

In a fire, toxic fumes of hydrogen chloride, phosgene, nitrogen oxides and carbon monoxide may be formed.

### **Fire fighting:**

Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

### **Personal protective equipment:**

Fire may produce irritating or poisonous vapours, mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

### **Personal precautions:**

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

### **Environmental precautions:**

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

### **Occupational spill:**

Do not touch spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

For small liquid spills, soak up with damp earth or sand, or other non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal.

For large liquid spills, contain the liquid by damming in with absorptive material and pump into containers. Soak up remainder with absorptive material.

Label containers with its content and dispose it in accordance with local regulations. Open burning or dumping of this material is prohibited. Do not flush spilled material into drains. Keep spectators away. In situations where product comes in contact with water, contain contaminated water for disposal.

## SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

### **Handling:**

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Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Handle product with caution. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Operators should change and wash clothing after use. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage:**

Store in its original, labelled and closed container in dry, cool, shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Do not store with insecticides, fungicides, fertilizer, seeds, foodstuffs and water supplies. Store away from incompatible substances. Keep out of reach of unauthorized persons, children and animals. Local regulations should be complied with.

## SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

**PERSONAL PROTECTIVE EQUIPMENT:**

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

**Respirator:**

It is usually safe to use the product without a respirator. If the product is used in dusty or confined conditions, a mask or respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

When handling the product or preparing the spray mixture or during application, wear a face shield or mask.

**Clothing:**

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

**Gloves:**

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

**Eye protection:**

Wear safety goggles or face shield.

**Emergency eye wash:** Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	clear brown free flowing homogenous liquid with a hydrocarbon odour.
<b>Relative density:</b>	1.18 ± 0.05 g/cm <sup>3</sup>
<b>Solubility in water:</b>	Soluble. Water soluble liquid.
<b>Flash point:</b>	None. Water based. Does not flash.
<b>pH:</b>	9,5 - 10,5
<b>Oxidizing properties:</b>	None
<b>Explosive properties:</b>	None

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:**

Stable under normal temperatures and storage conditions.

**Storage stability:**

Stable for 2 years under normal warehouse conditions. Store at temperatures below 30 °C and above 0 °C, avoid extreme temperatures above 50 °C and below 0 °C. Store in original container, tightly closed.

**Incompatibility:**

Product is normally compatible with other many products, provided the mixing instructions are strictly adhered to. The quality of the water however, can affect the compatibility. Therefore, a compatibility test should be carried out with the water and the products to be used prior to mixing. Do not physically mix concentrate directly with other herbicides concentrates; always dilute first. Avoid acids and strong oxidizers.

**Thermal decomposition:**

Toxic hydrogen chloride, phosgene, nitrogen oxides and carbon monoxide are released when the product decomposes on heating.

## SECTION 11 - TOXICOLOGICAL INFORMATION

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<b>Acute oral LD<sub>50</sub>:</b>	1750 mg/kg rats (calculated).
<b>Acute dermal LD<sub>50</sub>:</b>	> 2500 mg/kg rats (calculated).
<b>Inhalation:</b>	Technical: LC <sub>50</sub> (4 hours): > 6,36 mg/ℓ air. Minimal toxicity
<b>Acute skin irritation:</b>	may cause mild skin irritation.
<b>Acute eye irritation:</b>	may cause severe eye irritant with corneal damage.
<b>Reproductivity:</b>	It is unlikely that humans will experience reproductivity effects under normal exposure conditions.
<b>Teratogenicity:</b>	Mice fed 5 to 100 mg/kg/day of MCPA on days 6 to 15 showed significantly reduced fetal weight and delayed bone development at the highest dose. Teratogenic effects in humans are unlikely at expected exposure levels.
<b>Mutagenicity:</b>	MCPA is reportedly weakly mutagenic. It appears that the compound poses little or no mutagenic risk.
<b>Carcinogenicity:</b>	All of the available evidence on MCPA indicates that the compound does not cause cancer. Forestry and agricultural workers occupationally exposed to MCPA in Sweden did not show increased cancer incidence.
<b>Organ toxicity:</b>	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.

## SECTION 12 - ECOLOGICAL INFORMATION

### Degradability:

MCPA and its formulations are rapidly degraded by soil microorganisms and it has low persistence, with half-life of 14 days to 1 month. MCPA readily leaches in most soils, but its mobility decreases with increasing organic matter. MCPA and its formulations show little affinity for soil.

It is relatively stable in water to light breakdown, but can be rapidly broken down by microorganisms. In rice paddy water, MCPA is almost totally degraded by aquatic microorganisms in under 2 weeks.

### ECOTOXICOLOGY:

#### Birds: Moderately toxic.

LD<sub>50</sub>: Bobwhite quail: 377 mg/kg

#### Fish: Slightly toxic.

LC<sub>50</sub> (96 hours): Rainbow trout: 50 - 560 mg/ℓ  
Bluegill sunfish: > 150 mg/ℓ  
Carp: 317 mg/ℓ  
Silverside: 220 mg/ℓ

#### Algae:

EC<sub>50</sub>: *Selenastrum capricornutum* >392 mg/ℓ

Daphnia: LC<sub>50</sub> (48 hours): > 190 mg/ℓ

Bees: Not toxic. LD<sub>50</sub>: 0.104 mg/bee

#### Earthworms:

LC<sub>50</sub> (14 days): *Eisenia foetida*: 325 mg/kg soil.

## SECTION 13 - DISPOSAL CONSIDERATION

### Pesticide disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Comply with local legislation applying to waste disposal.

### Container disposal:

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

## SECTION 14 - TRANSPORT INFORMATION

### MATERIAL SAFETY DATA SHEET



**UN NUMBER:** 3082  
**Road Transport ADR/IRD:**  
 Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (MCPA-potassium salt 400 g/l)  
**Maritime Transport IMDG/IMO:**  
 Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (MCPA-potassium salt 400 g/l)

## SECTION 15 - REGULATORY INFORMATION

**Symbol:** Xn  
**Indication:** Harmful.  
**Risk phrases:**  
**R 21/22** Harmful in contact with skin and if swallowed.  
**R 36/38** Irritating to eyes and skin.  
**R 41** Risk of serious damage to eyes.  
**R 52** Harmful to aquatic organisms.  
**Safety phrases:**  
**S 1/2** Keep locked up and out of the reach children.  
**S 24/25** Avoid contact with skin and eyes.  
**S 26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**S 36/37/39** Wear protective clothing, gloves and eye/face protection.  
**S 60** This material and its container must be disposed of as hazardous waste.  
**S 61** Avoid release to the environment. Refer to special instructions/safety data sheets.

## SECTION 16 - OTHER INFORMATION

### Packaging and Labelling:

Packed in 200, 250, 500 ml, 1, 2, 5, 10, 20 and 25 l fluorinated plastic containers and labelled according to South African regulations and guidelines.

### Disclaimer:

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

## MATERIAL SAFETY DATA SHEET