# KOMBAT LAWNWEEDER

Version: 1.2
Revision Date: December 2016

## 1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY UNDERTAKING:

Harmful

Dangerous for the environment

**PRODUCT INFORMATION**

| | | |
|---|---|---|
| **Product Name** | : | KOMBAT LAWNWEEDER |
| **Design Code** | : | |
| **Registration No.** | : | L8770, Act No. 36 of 1947 |
| **Use** | : | Herbicide |
| **Company** | : | Kombat (Pty) Ltd<br>39 Dr. Gordon Road<br>Greytown<br>3250 |
| **Telephone** | : | +27-33-417-1906/7 |

**EMERGENCY TELEPHONE NUMBERS**

**SPILLAGES:**

Emergency telephone: +27-82-446-8946 (all hours)

**POISONING INCIDENTS:**

Poison Information Centre of the Western Cape: +27-861-555-777 (all hours)
Griffon Poison Information Centre +27-82-446-8946 (all hours)
UFS Pharmacology/Toxicology information centre: +27-82-491-0160

## 2. HAZARD IDENTIFICATION

**Main Hazard:** Irritating to skin eyes and mucous membranes.

**Likely routes of exposure:**
Eye contact, skin contact, ingestion, and inhalation.

**Eye contact:**
Extremely irritating and corrosive to eyes.

**Skin contact:**
Moderately irritating to skin.

**Ingestion:**
Harmful if large amounts are swallowed.

**Inhalation:**
Moderately irritating to respiratory tract.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Active ingredients:** | MCPA acid equivalent (as potassium salt) 300g/l plus Dicamba acid equivalent (as Dimethylamine salt) 120 g/l |
| **Common names:** | Dicamba and MCPA |
| **Chemical Names:** | 3,6-dichloro-*o*-anisic acid dimethylammonium salt and (4-chloro-2-methylphenoxy) acetic acid potassium **(IUPAC)** |
| **CAS No.:** | 2300-66-5 and 5221-16-9 |
| **Chemical Family:** | Benzoic acid (auxin) and aryloxyalkanoic acid herbicide. |
| **Chemical Formulas:** | $C_{10}H_{13}Cl_2NO_3$ (Mol. wt.: 266.1) and $C_9H_8ClKO_3$ (Mol. wt. :238.72) |
| **NIOSH/RTECS no:** | Mixture |
| **EINECS No:** | Mixture |
| **UN No:** | 3082 |
| **Risk Phrases:** | R22, R38, R41, R52/53 |

## 4. FIRST- AID MEASURES

**Signs of poisoning:**

Dimethylamine salts of dicamba - loss of appetite, loss of weight, vomiting, depressions, general tenseness and muscular weakness. There have been very few poisonings using dicamba alone; most exposures have occurred in mixtures of herbicides, especially chlorophenoxy compounds. Ingestion of large amounts of MCPA may cause bradypnea, respiratory failure, hyperventilation, or pulmonary edema. Nausea, vomiting, and diarrhea have been reported.

**Inhalation:**

Vapour inhalation is unlikely; inhalation of spray mist or droplets may cause irritation of the respiratory tract. In case of inhalation, remove source of contamination, or leave contaminated area and move to fresh air as rapidly as possible. Keep victim from contact for at least 2-3 days.

**Skin contact:**

If irritation occurs, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently wipe off excess chemical. Wash skin gently and
thoroughly with water and non-abrasive soap. Dermal absorption may lead to systemic poisoning. **Seek medical advice immediately if irritation persists.**

**Eye contact:**

Immediately flush eyes with gently flowing lukewarm water or saline solution for 15 minutes,

holding the eyelids open. Seek medical attention.

**Ingestion:**

Unlikely to occur under occupational conditions. In case of deliberate ingestion, have victim rinse mouth thoroughly with water. Do not induce vomiting. Give plenty of water to drink. Seek medical advice immediately. If breathing has stopped, apply artificial respiration. If substantial amounts of chlorophenoxy compounds have been ingested, spontaneous emesis may occur.

**Advice to the physician:**

There is no antidote. Treatment is symptomatic and supportive.
If substantial amounts have been ingested, spontaneous emesis may occur. If vigorous emesis has not occurred, measures should be taken to empty the stomach and limit gastrointestinal absorption by gastric intubation, aspiration and lavage, following placement of a cuffed endotracheal tube. Repeated administration of charcoal at half or more the original dosage every 2-4 hours may be beneficial.

- If gastric aspiration and lavage is not performed due to delay in treatment, and if the patient is fully alert, **administer charcoal and laxative orally.**

Administer **intravenous fluids** to accelerate excretion of the chlorophenoxy compound, and to limit concentration of the toxicant in the kidney. A urine flow of 4-6 ml/minute is desirable. Intravenous saline/dextrose has sufficed to rescue comatose patients who drank 2,4-D and mecoprop (phenoxies) several hours before hospital admission.

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## 5. FIRE-FIGHTING MEASURES

**Extinguishing agents:**

Extinguish small 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.
Contain water used for fire-fighting for later disposal.
Avoid the accumulation of polluted run-off from the site.

**Fire fighting:**

Remove spectators from surrounding area. Remove container from fire area if possible. Fight fire from maximum distance. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Water can be used to cool unaffected containers but must be contained for later disposal. Avoid inhaling hazardous vapours. Keep upwind.

**Special Hazards:**

Fire may produce irritating or poisonous vapours (toxic fumes of hydrogen chloride, chlorine, and oxides of carbon), mists or other products of combustion.

**Personal protective equipment:**

Fire-fighters and others that may be exposed should wear full protective clothing and self contained breathing apparatus.

**Further information:**
In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Do not inhale fumes. Ventilate area of spill or leak, especially confined areas. Avoid contact with skin, eyes or clothes. For personal protection see Section 8.

**Environmental precautions:**

Do not allow entering drains or watercourses. When the product contaminates public waters, inform appropriate authorities immediately in accordance with local regulations.

**Occupational spill:**

For **small spills**, soak up sand or suitable non-combustible absorbent material, place into containers for subsequent disposal. Thoroughly wash body areas, which come into contact with the product. Avoid runoff to sewer as it may cause fire/explosion. Do not allow the product to come in contact with water systems. For **large spills** contact the manufacturer. Contain liquid far ahead of spill. Contain spillage and contaminated water for subsequent disposal. Do not flush spilled material into drains. Keep spectators away and upwind.

## 7. HANDLING AND STORAGE

**Handling:**

Remove sources of naked flame or sparks. Harmful by inhalation or if swallowed. Avoid contact with eyes and skin and inhalation of fumes. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. 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 container in isolated, dry, cool (avoid temperatures above 40 Centrigrade) and well ventilated area. Avoid cross contamination with other pesticides and fertilizers. Precipitation of free acid from water may occur if the dimethylammonium salt is combined with lime sulfur, heavy metal salts or strongly acidic materials. Keep under lock and key out of reach of unauthorized persons, children and animals. Store away from incompatible substances. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

**Occupational exposure limits:**

No occupational limits established by OSHA, ACGIH or NIOSH

**Engineering control measures:**
It is essential to provide adequate ventilation. Ensure that control systems are properly designed and maintained. Only spark–resistant equipment should be used. 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 equipment including approved respiratory protection.

**Respirator:**
An approved full-face respirator suitable for protection from mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

**Clothing:**
Employee must wear appropriate protective (impervious) clothing and equipment to prevent skin contact with the substance.

**Gloves:**
Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

**Eye protection:**
Employee must wear splash-proof safety goggles and face-shield to prevent contact with this substance.

*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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:**
An amber to light brown liquid.

**Odour:**
Phenolic.

**Flammability:**
Not flammable.

**Explosive properties:**
Not explosive under use conditions.

**Flash point:**
Not applicable, water based formulation.

**pH:**
10,0-10,5

**Relative density:**
1,175 g/ml.

**Stability:**
Stable to iron, copper and aluminium. Slightly unstable to sunlight. (98.6%, 24 hours exposure)

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## 10. STABILITY AND REACTIVITY

**Stability:**
Product is resistant to oxidation and hydrolysis under normal conditions. Also stable in acids and alkalis. Decomposes at temperatures higher than 200 Centigrade

**Incompatibility:**
Precipitation of free acid from water may occur if the dimethylammonium salt is combined with lime sulfur, heavy-metal salts or strongly acidic materials.

**Hazardous decomposition:**
Product undergoes decomposition at high temperatures.

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## 11. TOXICOLOGICAL INFORMATION

**DICAMBA:**
**Acute oral $LD_{50}$:**
1707 mg/kg in female rats.

**Acute dermal $LD_{50}$:**
> 2 000 mg/kg in rats.

**Acute inhalation $LC_{50}$:**
$LC_{50}$: > 9.6 mg/l

**Acute skin irritation:**
Does provoke irritation.

**Acute eye irritation:**
Causes severe eye irritation and erosions.

**Dermal sensitisation:**
Strong to extreme possibility for causing contact hypersensitivity.

**Carcinogenicity:**
Dicamba is not carcinogenic.

**Teratogenicity:**

Dicamba was shown not to be teratogenic in rabbits and rats tested.

**Mutagenicity:**
Dicamba has not been shown to be a mutagen.

**MCPA 400 SL:**

**Acute oral $LD_{50}$:**
> 2 000 mg/kg in rats.

**Acute dermal $LD_{50}$:**
2 081 mg/kg in rabbits.

**Acute inhalation:**
$LC_{50}$ 4-hour: > 1.19 g/$m_3$ nominal in rats.

**Acute skin irritation:**
Slight irritant.

**Acute eye irritation:**
Very irritating to eyes .

**Acute sensitisation:**
Non sensitisating in guinea pigs.

**Carcinogenicity, Teratogenicity, Mutagenicity:**
All of the available cancer evidence on MCPA indicates that the compound does not cause Cancer.

## 12. ECOLOGICAL INFORMATION

**DICAMBA:**

**Degradability:** *(Technical material)*
The pathway of degradation in soil involves both chemical and microbial processes. Environmental factors can greatly influence the degradation rate in soil. The half-life of dicamba in soil has been observed to vary from 4 to 555 days with the typical half-life being 1 to 4 weeks. Under conditions suitable to rapid metabolism, the half-life is less than two weeks.
Microbial degradation may be one of the most important factors in persistence of dicamba in soil. The result and average soil persistence of MCPA at recommended application rates is up to 1 month in moist conditions and up to 6 months under drier climates; typical soil half-lives of 2-3 weeks have been observed under normal growing conditions. If released to soil, microbial degradation will be the major degradation process.

**Mobility:**
Dicamba is very mobile in most soils and significant leaching is possible. MCPA leaches readily in soil.

**Accumulation:**
The times for 50% of the applied dicamba to be degraded were approximately 16 days in both the clay loam and sandy loam, and about 50 days in the heavy clay. The resultant average persistence of MCPA at recommended application rates is up to 1 month in moist conditions and up to 6 months under drier climates.

**ECOTOXICOLOGY:**
*(Information for the active ingredient)*

**Birds:**
Acute $LD_{50}$ for mallard ducks : 2000 mg/kg
$LC_{50}$ (8 days dietary) for mallard ducks and bobwhite quail > 10 000 mg/kg mg/l

**Fish:**
$LC_{50}$ (96 h) 135 mg/l

**Daphnia:**
$LC_{50}$ (48 h) 110 mg/l

**Bees:**
Not toxic to bees. $LD_{50}$ > 100µg/bee

**Earthworms:**
No information currently available

**Algae:**
No data currently available.

**MCPA:**

**Soil:**
Residual activity is c. 3-4 months, following an application rate of 3kg per ha.

**MCPA 400 SL**

**Birds:**
$LD_{50}$ : 500 mg/kg b.w - 2000 mg/kg b.w. (Japanese quail)

**Fish:**
$LC_{50}$: > 100 mg/l (96 h) (*Brachydanio rerio*)

**Daphnia magna:**
48-h $EC_{50}$ = 80.6 mg/l

**Bees:**
$LD_{50}$ > 100 µg/bee (*Apis mellifera*.)

**Earthworms:**
$LC_{50}$ > maximum tested concentration 1000 mg/kg.

**Algae:**
Very toxic to algae.( Selanastrum capricornutum)
**$E_bC50$:** 0,02 mg/l (72h)
**$E_rC50$:** 0,03 mg/l (72h)

## 13. DISPOSAL CONSIDERATIONS

**Pesticide disposal:**
Contaminated absorbents, surplus product, etc., should be burned in a high-temperature incinerator (> 1000 $^{o}$C) with effluent gas scrubbing. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Comply with local legislation applying to waste disposal.

**Package product wastes:**
Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Triple rinse empty containers, puncture and dispose of via a licensed plastics recycler. Combustible containers should be disposed of in pesticide incinerators. Comply with any local legislation applying to disposal.

## 14. TRANSPORT INFORMATION

**UN NUMBER**: 3082
**ADR/IRD:**
Shipping name: Environmentally hazardous substance liquid, n.o.s.
(MCPA plus Dicamba)
Class: 9
Classification code: M6
Packaging group: III
Label: 9
Hazard ID NR: 90
**AIR/IATA :**.
Shipping name: Environmentally hazardous substance liquid, n.o.s.
(MCPA plus Dicamba)
Class: 9
Label: 9 Miscellaneous
Packaging group: III
Passenger aircraft: Y914(30Kg), 914 (No Limit)

Cargo aircraft: 914 (No limit)

**IMG/IMO:**
Shipping Name: Environmentally hazardous substance liquid, n.o.s.
(MCPA plus Dicamba)
Packaging group: III
Label of class: 9

**Tremcard no:** 90GM6-III

## 15. REGULATORY INFORMATION

**Symbol:** Xn; Xi; N

**Indication of Danger :** Harmful; Irritant Dangerous for the Environment.

**Risk phrases:**

**R 22** Harmful if swallowed.

**R 38** Irritating to skin.
**R 41** Risk of serious damage to eyes.
**R 52/53** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment**.**

**Safety phrases:**
**S2** Keep out of the reach of children.
**S37** Wear suitable gloves. **S**Wear eye/face protection **S 61** Avoid release to t

**Safety phrases:**
**S2** Keep out of the reach of children
**S 26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
**S37** Wear suitable gloves
**S39** Wear eye/face protection
**S 61** Avoid release to the environment Refer to special instructions/Safety data sheets.

**National legislation:** In accordance with the South African National Road Traffic Act, 1996 (Act 93 of 1996), the fire brigade Act, 1987(Act 99 of 1987) and the occupational lth and Safety Act, 1993 (No.85 of 1993)

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## 16. OTHER INFORMATION

**REFERENCES**
• Applicable own physical and chemical, toxicity and ecotoxicity research studies.
• The Pesticide Manual; Sixteenth edition ; Editor C MacBean; Crop protection Publications, 2003.
• EINECS Plus CD.
• LOLI®
• EXTOXNET PIP • Dangerous Goods Regulations, IATA, 47th Edition, Effective 1 January 2006. • 2, 2005 Edition.
• IMDG CODE, Vol.2 2005 Edition
All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct.
This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipients' sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS.

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