



MATERIAL SAFETY DATA SHEET

POND CLEAR

Date Issued: April 2014 and is valid for 3 years from this date.

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Revision No.: 3

Print Date: 3/10/14

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: POND CLEAR

SUPPLIER: EFEKTO

PO BOX 652147

BENMORE

2010

TEL No. 011 287 5700

EMERGENCY TELEPHONE NUMBERS:

SPILLAGES: 083 1233 911

Fax: 086 685 3129

POISONINGS:

National Poison Centre 021-9386084 (office hours).

021-9316129 (after hours).

082 446 8946

Use: A water soluble, powder concentrate algacide for the control of a broad spectrum of green and blue-green algae in fishponds and fountains.

2. HAZARDS IDENTIFICATION

- Irritating to skin and respiratory tract.
- Cause severe eye irritation

Main Hazard: Irritating to skin eyes and mucous membranes. The acute toxicity to Ametryn for man is thought to be low, and no adverse health effects from exposure to this herbicide have been reported.

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

Eye contact: Moderately irritating to eyes.

Skin contact: Moderately irritating to skin.

Ingestion: Harmful if large amounts are swallowed.

Inhalation: Moderately irritating to respiratory tract.

Symbols: Xn, Xi ; N

Risk-phrases: R22, R36/37/38, R 48/22, R50/53

UN No.: 3077

Class: 9



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3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredients:

Active ingredients.	CAS No.:	EC No.:
2, 4 -D	94-75-7	202-361-1
Diuron	330-54-1	206-354-4
Ametryn	834-12-8	212-634-7

Chemical Name: 2, 4-D: (2, 4-Dichlorophenoxy) acetic acid (IUPAC),

Duiron: 3-(3,4-dichlorophenyl)-1,1-dimethylurea (IUPAC),

Ametryn: *N*²-ethyl-*N*⁴-isopropyl-6-methylthios-1,3,5-triazine-2,4-diamine (IUPAC)

Chemical Family: **2, 4-D:** Aryloxyalkanoic acid.

Duiron: Urea.

Ametryn: Triazine

Chemical Formula:

2, 4-D: C₈H₆Cl₂O₃

Duiron: C₉H₁₀Cl₂N₂O

Ametryn: C₉H₁₇N₅S

NIOSH/RTECS No.:

4. FIRST-AID MEASURES

Signs of poisoning: There are no specific signs of poisoning.

2, 4 - D - The chlorophenoxy compounds are absorbed across the gut wall, lung and skin. The average residence half-life of 2, 4-D in the human is about 18 hours.

Diuron and Ametryn – There are no known signs and symptoms of poisoning and no specific antidote. Treat symptomatically when required.

Inhalation:

Vapour inhalation is unlikely; inhalation of dust 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. **Obtain medical advice immediately.**

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:



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Immediately flush eyes with gently flowing lukewarm water or saline solution for 20 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. In serious cases, **seek medical advice immediately.**

Advice to the physician:

There is no antidote. Treatment is symptomatic and supportive.

If substantial amounts have been ingested, spontaneous emesis may occur.

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.

Firefighting:

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 nitrogen and 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.

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:

The product is dangerous to the environment. Do not allow spills to enter drains or watercourses or to contaminate the garden. When the product contaminates public waters, inform appropriate authorities immediately in accordance with local regulations.

Occupational spill:

Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapours. For **small spills**, sweep up with damp earth or sand or other suitable non-combustible absorbent materials, such as sawdust, taking care not to raise a dust cloud. Place the material into a clean, dry container for subsequent disposal.



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Thoroughly wash body areas, which come into contact with the product. Avoid runoff entering sewers. Do not allow the product to come in contact with water systems.

For **large spills:** Dike far ahead of spill for later disposal. 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:

Follow manufacturer's instructions printed on the product label. Use only the recommended amounts and follow the storage advice. If product mixing is required, do so only according to label instructions. Do not treat ponds which have bordering trees with roots visibly extended into the water since injury to these trees may occur. Do not treat ponds where water is to be used for drinking or irrigation.

Harmful by inhalation or if swallowed. Avoid contact with eyes and skin and inhalation of dust. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the product gets inside. 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°C) and well-ventilated area. Avoid cross contamination with pesticides and fertilizers. 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 CONTROLS/PERSONAL PROTECTION

Occupational exposure limits:

2, 4-D: IARC 15

IDLH +100 gm/m³ TWA

OSHA Not listed

NIOSH values REL: 10 mg/m³ TWA

Diuron: NIOSH REL TO DIURON-air: 10H TWA 10 mg/m³.

Ametryn: 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:



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Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated and prolonged 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: A beige powder.

Odour: Phenolic.

Flammability: Non flammable.

Explosive properties: Not explosive under use conditions.

Flash point: Not applicable.

pH: 6,5 – 7,5

Bulk density: 0,936 g/ml

10. STABILITY AND REACTIVITY

Stability:

Pond clear is stable for 2-years when stored in a sealed container in a cool dry place.

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. Avoid strong oxidisers and excessive heat.

Hazardous decomposition:

Product undergoes decomposition at high temperatures.

11. TOXICOLOGICAL INFORMATION

NO DATA AVAILABLE ON POND CLEAR

(Information on the active ingredient)

2, 4-D:

Acute oral LD₅₀: 1 089.6 mg/kg in male rats.

Acute dermal LD₅₀: > 2 531.3 mg/kg in rats.

Acute inhalation LC₅₀: LC₅₀ : > 2.06 mg/l

Acute skin irritation: Does provoke irritation or corrosion.

Acute eye irritation: Causes severe eye irritation and erosions.

Dermal sensitisation: May have strong to extreme possibility for causing contact hypersensitivity.

Carcinogenicity: Not proved.

Teratogenicity: Not proved.

Mutagenicity: No mutagenic changes have been observed under experimental conditions.



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DIURON:

Acute oral LD₅₀: 3,542 mg/kg in rats.

Acute dermal LD₅₀: > 2 000 mg/kg in rats.

Acute inhalation LC₅₀: >5 mg/λ over 4 hours in rats (data for technical material)

Acute skin irritation: Considered being non-irritating to the skin (rabbit).

Acute eye irritation: May be moderately irritating to eyes (rabbit).

Dermal sensitisation: Has weak sensitisation potential (guinea pig).

Carcinogenicity: Animal studies did not detect any carcinogenic activity. No human information available.

Teratogenicity: Animal studies did not detect any carcinogenic activity. No human information available.

Mutagenicity: Animal studies did not detect any carcinogenic activity. No human information available.

AMETRYN:

Acute oral LD₅₀: 1 390 mg/kg in rats.

Acute dermal LD₅₀: > 3 100 mg/kg in rats (technical product).

Acute inhalation LC₅₀ 4-hour: > 2.2 mg/λ of air in rats.

Acute skin irritation: Classified as non-irritant and non corrosive.

Acute eye irritation: Classified as mildly irritant to the eyes.

Dermal sensitisation: No data currently available.

Carcinogenicity: There is no adequate data to determine if Ametryn can increase the risk of cancer in humans.

Teratogenicity: No information is currently available.

Mutagenicity: Studies have shown that Ametryn is not mutagenic.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGY:

No Data on POND CLEAR.

The product may pose a hazard to fish.

(Information for the active ingredients)

2, 4-D:

Degradability:

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 pond clear in soil may 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 pond clear in soil.

Mobility:

Pond clear is relatively mobile in most soils and significant leaching is possible.

Accumulation:

The product shows little or no tendency to bio-accumulate and poses no long-term threat to wildlife.

Birds:

Acute LD₅₀ for mallard ducks : 2000 mg/kg

LC₅₀ (8 days dietary) for mallard ducks and bobwhite quail > 1 730 mg/kg

Fish:



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LC₅₀ (96 hours): 5.6 mg/l (rainbow trout)
4.1 mg/l (blue gill)
25 mg/l (guppies)
14.1 mg/l (goldfish)

Daphnia: LC₅₀ (48 h) 12 mg/l

Bees: Slightly toxic to bees. Oral LD₅₀ > 100µg/bee

Earthworms: No information available

Algae (EC₅₀): 7 Days: 0,0036 mg/litre (Selenastrum capricornutum).

Ametryn:

Birds:

Non toxic to birds LC₅₀(5 days) for Mallard ducks and bobwhite quail is >5620 ppm.

Fish:

Toxic to fish .

The LC₅₀ for rainbow trout exposed for 96 hours is 8.8 mg/l.

The LC₅₀ for bluegill is 4.1 mg/l and for goldfish it is 14.1 mg/l

Daphnia LC₅₀-96h:

28 mg/l (Slightly toxic to *Daphnia*)

Crustaceans and Molluks:

Ametryn toxic to crustaceans and moderately to highly toxic to mollusks

Bees:

Slightly toxic to bees.

Oral LD₅₀ : >100µg/bee

Algae(EC₅₀):

Very toxic to algae. 7 Days: 0,0036 mg/litre(Selenastrum capricornutum)

Earthworms:

LC₅₀ (14 days) is 166 mg/kg of soil (*Data on the technical Product*)

2,4-D:

Fate and behaviour in soil:

Rate of degradation: 2,4-D residues peak approximately 14 days after application, and then degrade rapidly 14 to 42 days after application. At an application rate of 5.6 kg/ha., less than 5 % remains after 70 days. Small amounts remain after 385 days when applied at rates 11.2 and 22.4 kg/ha.

Adsorption /adsorption: As the amount of 2,4-D added to the soil increases, so the percentage of the total 2,4-D adsorbed to the soil decreases. Higher amounts of substance have lower probabilities of being sorbed.

Fate and behavior in water:

Rate and route of degradation: DT₅₀ various between 10 and 15 days for 0.5 µg/ml and 20 and 25 days for 7.0 µg/ml.

Fate and behaviour in air:

Rate and route of degradation: 2,4-D is subject to photo-oxidation by reaction with hydroxyl radicals, and has an estimated half-life of 1 day. Volatilisation is negligible.

German wkg: Not listed

ECOTOXICOLOGY:

Daphnia pulex: Practically non-toxic The 48 hour LC₅₀ is > 100 mg/l

Birds: LD₅₀ lies between 625 to 2000 mg/kg (bobwhite quail)

Fish: 96-hour LC₅₀ :> 110 mg/l (Rainbow trout)



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Earthworms: The 14 day LC₅₀ is about 682.5 mg of 2,4-D Amine 600 SL/kg soil dry weight. The NOEC is about 250 mg/kg of 2,4-D 600 SL/kg soil dry weight.

Freshwater algae: EC₅₀ > 100 mg/ ℓ (72 and 120 hour exposures based on growth rate and biomass.)

Lemna gibba(EC₅₀): 0.58 mg/l

Bees: Oral: 72-hour LD₅₀ >100 µg formulation/bee

13. DISPOSAL CONSIDERATIONS

Pesticide disposal:

Contaminated absorbents, surplus product, etc., should be burned in a high-temperature incinerator (> 1000 °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 labeled safeguards until container is destroyed. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must be triple rinsed with water and then be punctured and transported to a scrap metal facility for recycling or disposal in approved landfill site. Comply with any local legislation applying to disposal.

14. TRANSPORT INFORMATION

UN NUMBER: 3077

ADR/IRD:

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (2, 4-D, Diuron plus Ametryn)

Classification Code: M7

Label: 9

Packaging Group: III

Hazard ID : 90

IMDG/IMO:

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (2, 4-D, Diuron plus Ametryn)

Packaging group: III

Label of class: 9

AIR/IATA .:

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (2, 4-D, Diuron plus Ametryn)

Class: 9

Hazard Label: Miscellaneous

Packaging group: III

Passenger aircraft Y914 (30Kg)

Cargo aircraft: 900 (No limit)

Tremcard no: 90GM7-III



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15. REGULATORY INFORMATION

Symbol: Xn; Xi; N

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

Risk phrases:

R 22 Harmful if swallowed.

R36/37/38 Irritating to eyes respiratory system and skin.

R 38 Irritating to skin.

R 41 Risk of serious damage to eyes.

R 48 Danger of serious damage to health by prolonged use.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the environment.

Safety phrases:

S2 Keep out of the reach of children.

S 22 Harmful if swallowed.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 60 This material and it's container must be disposed of as hazardous waste.

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 Health and Safety Act, 1993 (Act. No. 85 of 1993)

16. OTHER INFORMATION

Compiled by: Danie Fourie

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS 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 MSDS 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 MSDS to their own MSDS.

REFERENCES

- EPA RED, August 10, 2006.



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- *The Pesticide Manual*; Eleventh Edition; Editor Clive Tomlin; Crop Protection Publications, 1997.
 - HSDB (Hazardous substance Database).
 - ECB-ESIS.
 - EXTTOXNET PIP
 - ADR 2011, Part 3.
 - IMDG Code, 2005 Edition, Vol. 2.
 - IATA Dangerous goods regulations, Effective 1 January 2011

END OF MSDS.