

PRODUCT : CLOMAZONE 480EC
EFFECTIVE DATE : August 2006
REVISION No. : 0
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1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

PRODUCT NAME CLOMAZONE 480EC
Common name Clomazone
Chemical name 2-(2-chlorobenzyl)-4,4-dimethyl-1,2-oxazolidin-3-one
Chemical group Unclassified

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Clomazone (CAS 81777-89-1) 480g/litre

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

- Brown liquid with a slightly aromatic hydrocarbon odor.
- Slightly combustible. May support combustion at elevated temperatures.
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly to slightly toxic to fish and aquatic organisms. Keep out of drains and water courses.

POTENTIAL HEALTH EFFECTS: Effects from overexposure result from coming into contact with the skin and eyes. Symptoms of overexposure include nasal discharge.

MEDICAL CONDITIONS AGGRAVATED: None presently known.

4. FIRST AID MEASURES

EYES: Flush with plenty of water. Get medical attention if irritation occurs and persists.

SKIN: Wash with plenty of soap and water.

INGESTION: Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: This product has low oral, dermal and inhalation toxicity. It is non-irritating to the eyes and skin. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

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5. FIRE FIGHTING MEASURES

FLASH POINT AND METHOD: >94°C (>203°F) (TOC)

EXTINGUISHING MEDIA: Foam, CO₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

FIRE / EXPLOSION HAZARDS: Slightly combustible. This material may support combustion at elevated temperatures.

FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and/or carbon dioxide, oxides of nitrogen, chlorine and hydrogen chloride.

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize tools and equipment, wash with a 20% solution of potassium hydroxide in methanol. Follow by washing with strong soap and rinsing with water, and add both solutions to the drums of waste already collected.

To clean and neutralize spill areas, spray the area with a 20% solution of potassium hydroxide in methanol. Cover the treated area with plastic and let stand for 24 hours. Remove the covering and place in a drum for later disposal. Wash the area, three times, with a strong soap and rinse with water. If spill occurs on a wooden surface, repeat the entire process again. Absorb, as above, any excess liquid and add to the drums of waste already collected. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. For re-circulation directions, refer to the product label under 'Mixing and Handling' instructions, for 'Bulk/Mini-Bulk Containers'. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

RESPIRATORY: For splash, mist or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

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PROTECTIVE CLOTHING: Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

WORK HYGIENIC PRACTICES: Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking or using tobacco. Shower at the end of the workday.

GLOVES:

Wear chemical resistant gloves made of materials such as nitrile. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOUR: Slight aromatic

APPEARANCE: Brown liquid

pH: 6.5 @ 20°C

SOLUBILITY IN WATER: Emulsifies

MOLECULAR WEIGHT: 239.7 (clomazone)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat and fire.

STABILITY: Stable

POLYMERIZATION: Will not occur

11. TOXICOLOGICAL INFORMATION

DERMAL LD₅₀: >5000 mg/kg (rat)

ORAL LD₅₀: >5000 mg/kg (rat)

INHALATION LC₅₀: >5.21mg/l/4 hr (rat) (maximum attainable concentration - zero mortality)

ACUTE EFFECTS FROM OVEREXPOSURE: This product has low oral, dermal and inhalation toxicity. It is non-irritating to the eyes and skin. Signs of toxicity noted in laboratory animals included abdominogenital staining, chromorhinorrhea, chromodacryorrhea, decreased locomotion, dyspnea, diarrhea, and oral and nasal discharge. Calcium chloride may cause moderate to severe eye irritation, which may result in corneal injury. Prolonged or repeated exposure of calcium chloride, on the skin, may cause skin irritation or even burns; the severity of skin irritation may increase on damp or abraded skin.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the formulation. In studies with laboratory animals, clomazone did not cause reproductive toxicity, teratogenicity, or carcinogenicity. Liver enlargement and elevated cholesterol levels are often noted in laboratory animals that have ingested large doses of clomazone during their lifespan. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity, DNA damage and chromosome aberrations.

CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: (ACGIH) Not listed

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12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA:

Clomazone has a moderate rate of degradation in soil (half-life = 24 days), and is stable to hydrolysis over a wide range of pH. The bioconcentration potential for clomazone is low, with a Log Pow of 2.5, and a measured bioconcentration factor (BCF) of 27 - 40. Field studies showed that clomazone does not significantly leach below 15 cm in soil and is, therefore, not expected to enter groundwater.

ECOTOXICOLOGICAL INFORMATION:

Clomazone Technical:

Freshwater fish: 96-hour LC_{50} = 34 (Bluegill sunfish) (slightly toxic)

Estuarine invertebrates: 96-hour LC_{50} = 8.9 mg/l (Pink shrimp) (moderately toxic)

Estuarine fish: LC_{50} = 6.3 (Atlantic silverside, moderately toxic) - 41 mg/l (Sheepshead minnow, slightly toxic)

Estuarine invertebrate: LC_{50} = 0.57 mg/l (Mysid) (highly toxic)

Waterfowl / Upland game birds: Oral LD_{50} >2510 mg/kg; Dietary LC_{50} >5620 ppm (low toxicity).

Care should be taken to avoid contamination of the aquatic environment.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

EMPTY CONTAINER: Non-returnable containers which held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapours that form may create an explosion hazard.

14. TRANSPORT INFORMATION

Road transport ADR/RID

UN No: 3082

Class: 9

Number/letter: 11 / (c)

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.,
(contains clomazone 480g/l)

Maritime transport IMDG

UN No: 3082

Class-primary: 9 Miscellaneous

Pack. Group: III

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.,
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Marine pollutant

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Air transport ICAO/IATA

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.,
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15. REGULATORY INFORMATION

Classification: Harmful, Irritant; Dangerous for the environment
Hazard symbols Xi; N
Risk Phrases:
R20: Harmful by inhalation.
R36 Irritating to eyes
R37/38: Irritating to respiratory system and skin.
R43: May cause sensitisation by skin contact.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
S2 Keep out of the reach of children.
S36/37: Wear suitable protective clothing and gloves.
S60: This material and/or its container must be disposed of as hazardous waste.
S61: Avoid release to the environment.

16. OTHER INFORMATION

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 and use of the product.

It is not applicable to unusual or non-standard uses of neither the product nor where instructions or recommendation are not followed.

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

REFERENCES

- SABS 0265, 1999.
- EINECS CD 1999.
- HSDB (Hazardous substance Database).
- Dangerous Goods Regulations, IATA, 44th Edition, Effective 1 January 2003.
- IMDG CODE, Vol. 2, 2000 Edition.