

MATERIAL SAFETY DATA SHEET

SECTION 1 Chemical product and Company identification

Product Name: Dalot 240EC

Active Ingredient: Clethodim

Chemical name: (RS)-2-[(E)-1-[(E)-3-chloroallyloxyimino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxycyclohex-2-en-1-one

Chemical Family: Cyclohexanedione oxamide

Formula: C₁₇H₂₆ClNO₃S

Product Use: Commercial herbicide

SECTION 2 Composition/Information on Ingredients

Product Name	Wt.	CAS RN
Clethodim	240 g/l	99129-21-2

SECTION 3 Hazards Identification

Health effects

Acute Effects:

No adverse health effects are expected if Herbicide is handled in accordance with this Material Safety Data Sheet.

Swallowed: Slightly toxic.

Eye: Irritating to eyes. This product is a moderate eye irritant and could cause prolonged (weeks) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

Signs and symptoms may include pain, tears, swelling, redness and blurred vision.

Skin: Mildly irritating to skin.

Inhaled: Little inhalation hazard if used in the correct manner.

Chronic Effects:

This product contains clethodim. Compound-related effects, noted at high doses in subchronic toxicity studies conducted in mice, rats and dogs were decreased body weights, increased liver size (increased liver weights and hypertrophy) and anaemia (decreased haemoglobin, hematocrit or erythrocyte counts). In chronic studies with the mouse, rat and dog similar effects have been noted. No reproductive toxicity has been observed; developmental toxicity was observed only at maternally toxic levels. Clethodim does not present any genetic hazard to intact animal systems.

SECTION 4 First Aid Measures

Swallowed: If poisoning occurs, contact a doctor as soon as possible. If swallowed, and if more than 15 minutes from a hospital, induce vomiting, preferably using Ipecac Syrup APF.

Skin: If skin contact occurs, remove contaminated clothing and wash skin thoroughly with soap and water.

Eyes: Hold eyes open, flood with water for 15 minutes and see a doctor.

Inhaled: Remove from contaminated area. Apply artificial respiration, if not breathing.

Advice to Doctor

Treat symptomatically. If indicated, lavage with cuffed tube. The main hazard is aspiration of the solvent into the lungs resulting in chemical pneumonitis.

SECTION 5 Fire Fighting Measures

Flammability

Flammable. Isolate from sources of heat, naked flames or sparks.

Dangerous decomposition or Combustion Products

Normal combustion forms carbon dioxide, water vapour and may produce oxides of sulfur, nitrogen and toxic chlorine compounds. Incomplete combustion can produce carbon monoxide.

Liquid evaporates and forms vapour (fumes) which can catch fire and burn with explosive violence. Invisible vapour spreads easily and can be set on fire by many sources such as pilots lights, welding equipment and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 29°C.

Evacuate immediate area. Advise Fire Brigade of nature of hazard. Wear full protective equipment, including breathing apparatus. Remove drums from site of fire, if possible, as overheating may cause some of the drums to explode. Cool surrounding containers with a fine water spray.

Extinguishing media: CO₂, dry chemical, foam, water fog.

Avoid contact of water as toxic run-off will form. In this event, consideration should be given to allowing the fire to burn out. Contain run-off.

SECTION 6 Accidental release measures

In Case of Spill or Leak

Clear area of all unprotected personnel. Wear full protective equipment including breathing apparatus. Stop leak if safe to do so by manoeuvring the container. Decant leaking container into a clean empty drum remote from the storage area and label. If the leaking container can be repacked, contact the manufacturer. Do not flush to drains or sewers. Do not contaminate streams, rivers or watercourses.

Absorb spill in lime, sand, earth or non-combustible absorbent material. Place material in open top drum, clean up with small amount of detergent and water, absorb and place in drum. Seal drum and bury in an area approved by the local waste disposal authority.

Wash or wipe down protective equipment in detergent solution and dry. Wash overalls, destroy if heavily contaminated.

SECTION 7 Handling and storage

Storage

Keep out of the reach of children. Store in the closed, original container in a well-ventilated area and cool as possible separate building or room away from children, animals or fodder. Protect from frost. Do not store for long periods in direct sunlight.

Isolate from sources of heat, naked flames or sparks.

Ensure containers are correctly labelled and securely sealed.

Eye-wash and washing facilities must be readily available. For disposing spills have lime, absorbent material and open head drums on hand.

SECTION 8 Exposure controls/Personal protection

Exposure Standards

Threshold Limit Value (TLV) – 100ppm, 435 mg/m³ TWA ACGI (liquid hydrocarbon solvent).

Engineering Control

Do not inhale vapour or spray mist.

Personal Protective Measures

Harmful if swallowed. Will irritate the eyes and skin. When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and face shield or goggles. If product or spray on skin, immediately wash area with soap and water. If in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

SECTION 9 Physical & Chemical properties

Appearance: Brown to yellow liquid

Odor: Solvent odour

Melting Point: Not Applicable

Boiling Point: Not available

Vapor Pressure: Not available

Solubility in water (at 20°C): Emulsifiable

SECTION 10 Stability & Reactivity

CHEMICAL STABILITY: Unstable at extreme pH's, temperatures and upon exposure to UV light.

INCOMPATIBILITY: May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

HAZARDOUS DECOMPOSITION PRODUCTS: No Data Available

HAZARDOUS POLYMERIZATION: Polymerization will not occur.

IMPACT EXPLODABILITY: No Data Available

OXIDATION/REDUCTION PROPERTIES: No Data Available

SECTION 11 Toxicological Information

Acute Toxicity /Irritation Studies

Ingestion: Acute oral LD₅₀ for rats 3630mg/kg.

Dermal: Acute percutaneous LD₅₀ for rabbits > 5000 mg/kg

Inhalation: Inhalation LC₅₀ (Rat) > 4.6 mg/L - 4 hours

NOEL: for mice 30, rats 16mg/kg daily.

Chronic Effects:

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SECTION 12 Ecological Information

Birds: LD₅₀ for mallard ducks > 2000 mg/kg.

Bees: LD₅₀ > 100µg/bee

Worms: LD₅₀ for worms 454mg/kg

Daphnia: LC₅₀ (48 h) > 120mg/L.

Algae: EC₅₀ (5 d) for fresh water algae 57.8mg/L.

SECTION 13 Disposal Considerations

For end users, triple or (preferably) pressure rinse containers before disposal. Add rinsings to the spray tank. Do NOT dispose of undiluted chemicals on-site. Break, crush, puncture and bury empty containers in a local authority landfill. If not available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose, clear or waterways vegetation and roots. Empty containers and product should NOT be burnt.

SECTION 14 Transport Information

Not classified as a dangerous good. This product has no UN classification.

OTHER INFORMATION

The information contained in the Material Safety Data Sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for with other



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