

Product Safety Data Sheet

1. Chemical product and company identification

- 1.1. *Prepared Date* : May. 20 . 2022
1.2. *Product information* : -
Trade name : Deltaherb-240 E.C.
1.3. *Information about manufacturer / supplier* :
Saudi Delta Company for Chemical Industries
Riyadh – Saudi Arabia – 3rd Industrial City
Tel. 00966-11-2654533 Fax. 00966-11-2654532
P.O. Box 355809 Riyadh 11383 Saudi Arabia

2. Information on ingredients

2.1. *Chemical properties (Component substances)*

The product is a mixture of one active ingredient , emulsifiers , Co- solvent, and Solvent.

- Clethodim: 24% w/v (Systemic herbicide)
- Emulsifiers: 7% w/v (Anionic / non- ionic type)
- Stabilizer: 2% w/v (Anionic / non- ionic type)
- Aromatic Solvent: Up to 100% v

2.1.1. Clethodim :

- **Chemical Name:** (±)-2-[(E)-1-[(E)-3-chloroallyloxyimino]propyl]-3-hydroxycyclohex-2-enone
- **CAS No.** : 99129-21-2
- **Mol. Formula** : C₁₇H₂₆ ClNO₃
- **Physical Form** : Clear amber liquid
- **B.P.** : Decomposes below boiling point
- **Vapour Pressure:** < 1X10⁻² mPa (20⁰C)
- **S.G./ density** : 1.14 (20⁰C)
- **Solubility** : Soluble in most organic solvents
- **Stability** : Aqueous hydrolysis DT₅₀ 28d(pH 5) , 300d(pH7), 310d (pH9)

2.1.2. Emulsifiers :

A combined anionic/nonionic emulsifiers specially intended for formulation of pesticide .

Composition : 15-30% calcium dodecyl benzenesulfonate .
10-20% n-Butanol .
30-60% polyalkyleneoxidederivative .

Appearance : Clear yellow-brown liquid and cloudy yellow liquid

Density : 0.99-1.01 gm/ml (20 °C)
Flash point : 37 °C .
Pour point : 2-3 °C .
Viscosity : 1150 mPa s .
Solubility : Soluble in Isopropanol , Octanol , water , and exylene in
soluble in kerosene and mineral oil

2.1.3. Aromatic Solvent:

CAS No. : 68920-06-9 SHA : 086803
Composition : Dimethylbenzene (ortho , meta , and para isomers).
Properties : Volatile . Petroleum distillate (75-100% aromatic
hydrocarbon) , B.P. : 175-300 °F

3. Hazard Identification

- 3.1. Dangerous Substances** : Moderately hazardous
3.2. Important Hazardous : Solvent may be present aspiration hazardous .
3.3. Signs and Symptoms of over-exposure : Headache , dozzomess ; restlessness ; anxiety; mental confusion, convulsions; coma; depression of the respiratory center. These symptoms can occur in different combinations and time of on set sequence, and duration may very depending on the chemical, dose, and route of exposure.

4. First aid Measures

Eyes : immediately flush for 15 minutes with large amount of water .
Skin : remove all contaminated clothing atonce ; thoroughly wash with soap and water
Ingestion : Don't induce vomiting or administer liquids .
Vomiting should be induced only under professional supervision.
Keep patient prone and quiet . Only a physician should induce vomiting as first aid for this slightly toxic substance due to increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent .

5. Fire Fighting Measures

5.1. Extinguishing media :

- 5.1.1. Suitable: Carbon dioxide, foam, water fog, dry chemical and halogenated agents.
5.1.2. Not to be used: Don't use water except in case important fire.
5.1.3. Protection against fire: Keep a way from sources of ignition.

6. Accidental Release Measures

6.1. **Personal precautionary measures :**

- 6.1.1. **Respiratory protection :** In case of insufficient ventilation wear
A pesticide respirator jointly approved by the local authorities .
- 6.1.2 **Protective gloves :** wear heavy duty , natural rubber gloves , or chemical
resistant gloves such as Barrier laminate or Nitrile Rubber or.
Neoprene rubber or viton .
- 6.1.3 **Eye protection :** wear safety goggles .
- 6.1.4. **Other protection :** wear water-proff pants , coat , hat , rubber boots or
rubber overshoes.

6.2. **Environmental Precaution :** Stop any evertual leakage.

6.3. **After spillage / leakage on soil:** Liquid spillage should be dammed off and pumped
into containers; soak up remainder with absorbent material and dispose of in accordance with
local regulations .

7. Handling and Storage

- 7.1. Don't apply when weather conditions favor drift from treated area. Don't contaminate
lakes, streams, ponds. When using don't eat, drink, or smoke. Don't breath spray.
Wash hands and exposed skin before meals and after work.
Wash out container thoroughly and dispose of safety. Store in original container in a
cool, dry, well-ventilated, secure area out of reach of children and animals store in
original container, tightly closed in a safe place.

8. Exposure controls , Personal Protections .

- 8.1. **Personal Protection:** Don't breath spray, after treatment, wash and change clothes
prior anything else like eating, drinking, or smoking.
- 8.2. **Respiratory Protection :** Wear a suitable mask.
- 8.3. **Skin Protection :** Wear a suitable protective clothing mask.
- 8.4. **Eye Protection :** Wear eye, face protection.
- 8.5. **Ingestion :** Don't eat, drink, or smoke during application.

9. Physical and chemical properties

- 9.1. Shape : Liquid
- 9.2. Colour : Brown
- 9.3. Odour : Aromatic
- 9.4. Product Use : Herbicide
- 9.5. Melting point : Not applicable

- | | |
|--------------------------------|------------------------|
| 9.6. Boiling point | : N/A |
| 9.7. Specific gravity (20°C) | : 0.95 |
| 9.8. Vapour pressure | : Not available |
| 9.9. Viscosity (CPS) 25 °C | : 25 |
| 9.10. Solubility in water | : Forms white emulsion |
| 9.11. Flash point (closed cup) | : >40 °C |
| 9.12. PH (1% aq. Emul.) w/v | : 5-8 |
| 9.13. Flammable limits | : Not available |

10. Stability and Reactivity

10.1. Hazardous Decomposition :

Deltaherb-240 EC is stable under normal conditions 25°C , stable in neutral and slightly acidic media .

10.2. Dangerous products of decomposition :

(soil and water) binds tightly to soil , with rapid degradation by soil microorganisms No bioaccumulation .

11. Toxicological Information

- 11.1. **Acute oral** LD₅₀ for male rats 1630, female rats 1360 ,male mice 2570, female mice 2430 mg/kg
- 11.2. **Acute percutaneous** LD₅₀ for rabbits > 5000 mg/kg. Moderate skin irritant(rabbits). Not a skin sensitizer (guinea pigs)
- 11.3. **Inhalation** : LC₅₀ (4h) for rats>3.9 mg/l (total aerosol)
- 11.4. **NOEL** : for mice 30 , rats 16 , dogs 1 mg/kg daily
- 11.5. **ADI** (JMPR) 0.01mg/kg b.w (1999) Technical
- 11.6. **Toxicity class** : WHO (a.i) III (company classification) ; EPA(formulation) III

12. Ecological Data

- 12.1. **Birds** : Acute oral LD₅₀ for mallard ducks 6000 ,bobwhite quail >2000 mg/kg .
- 12.2. **Fish** : LC₅₀ (96 hr) for rainbow trout 67 , bluegill sunfish >120 mg /L .
- 12.3. **Bees** : LD₅₀ contact >100µg/bee.
- 12.4. **Daphnia** : LC₅₀ (48 hr) > 120 mg/l
- 12.5. **Algae** : EC₅₀ (5d) for fresh-water algae 57.8 mg/l
- 12.6. **Worms** : LC₅₀ for worms 454 mg/kg soil .
- 12.7. **NOEL** : 316 mg/kg soil

13. Disposal Considerations

13.1. Pesticides Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of use according to label instructions contact.

Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

13.2. Container disposal

13.2.1. Metal containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by local authorities. Do not cut or weld metal containers.

13.2.2. Plastic containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by authorities, by burning. If burned, stay out of smoke.

13.2.3. Returnable / Refillable Sealed Containers: Don't rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

14. Transport Information

GGVE/GGVS : 6.1/III

IMDG-Code :6.1/ III

IATA/ICAO : 6.1 III

EMS :----

UN No. : 1993

RID/ADR : 6.1

MFAG : ----

UN PACKIN GROUP : III

15. Regulatory Information

15.1. Toxicity Classifications : Moderately Hazardous

Warning Symbol :

X

15.2. R-Phrase

R21/22 : Harmful in contact with skin and if swallowed

R36/38 : Irritating to eyes and skin .

R10 : Flammable

R20 : Harmful by inhalation

15.3 S-Phrase

S22 : Don't breath dust .

S26 : In case of contact with eyes , rinse immediately with plenty of water and seek medical advice .

S37/39 : Wear suitable gloves and eye / face protection ..

S25 : Avoid contact with eyes .

16. Other Information

The producer warrants the quality of this product in the original closed packaging , and of its conformity with authority agreement during 2 years .