



SAFETY DATA SHEET

GEMINI[®] 50 SC

Date of Issue: 18 March 2014

1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

Chemical name of active ingredient(s): Clofentezine

Recommended use: Miticide

Supplier: Etec Crop Solutions Ltd
PO Box 51584
Pakuranga
Auckland
Phone 0800 100 325

Emergency telephone number: 0800 Poison (0800 764 766) 24 Hours

2. HAZARDS IDENTIFICATION

Hazard Classification: 6.9B, 9.3C
Required identification Details: TOXIC IF INGESTED
TOXIC TO TERRESTRIAL VERTEBRATES

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation Information on hazardous ingredients

| Common name | CAS No | % |
|--------------|------------|-----|
| clofentezine | 74115-24-5 | 42% |

4. FIRST-AID MEASURES

Description of necessary first aid measures:

Effects and symptoms A slight skin and eye irritant. No other acute effects are known in normal use. Avoid contact with skin, eyes, or clothing.

First-aid measures

Inhalation: No specific health effects are known.

Ingestion: No specific health effects are known.

Skin contact: May be a slight skin irritant. A weak skin sensitizer in animal studies.

Eye contact: A slight eye irritant.
Notes to a physician: Apply symptomatic treatment

5. FIRE-FIGHTING MEASURES

HAZCHEM Code: 2W
Extinguishing media : Water, foam, dry powder or carbon dioxide..
Hazardous thermal (de)composition products: Evolution of toxic fumes which may include nitrogen oxides and hydrogen chloride.
Protection of fire-fighters: Do not breathe fumes. Wear self-contained breathing apparatus. Spray containers with water to keep cool.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use proper protective equipment to minimize exposure
Environmental precautions: Take all necessary actions to prevent and to remedy the adverse effects of the spill. Notify the appropriate authorities immediately. Ensure that the disposal is in compliance with regional requirements and state or local regulations.
Methods for cleaning up: Contain and absorb spillage with absorptive material. Use clean shovel and place into clean, dry containers for disposal. Wash area with detergent and water. Do not allow spilled material to enter sewer or watercourse.

7. HANDLING AND STORAGE

Handling: Keep away from naked flame.
Storage: Store in original container tightly closed in a locked, dry, well ventilated place away from food and feedstuffs. Keep away from sparks, heat and flames. Keep out of reach of children or animals. Hazardous Substances and New Organisms Act (1996) requires schedule 3 & 4 products in containers less than 5 litres to be stored 1.5 metres above ground level.
Packaging materials: Plastic containers (Fluorinated HDPE)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Guidelines

Workplace exposure standards: Not Established
Exposure Standards outside: Not Established

The workplace: Engineering measures

Exposure control measures: Engineering controls are not necessary under most routine use and handling conditions. For precautions, use with adequate ventilation. Local exhaust ventilation may be

necessary when used in a confined area.

Personal Protective Equipment

| | |
|---|--|
| Detail specifications for equipment: | No special requirements |
| Respiratory system: | Ensure good ventilation and Work up wind. If not possible, wear suitable respirator for spray mist. |
| Skin and body: | Long-sleeved shirt and long pants, shoes or boots plus socks. |
| Hands: | Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC), or Viton recommended. |
| Eyes: | Goggles, safety glasses. |
| General hygiene: | Wash hands and face after use. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|-----------------------------------|
| Physical State: | Viscous purplish-red liquid. |
| Colour: | Purplish-red liquid. |
| Odour: | Odorless |
| pH: | N/A |
| Vapour Pressure: | 1.3×10^{-7} Pa@25°C a.i. |
| Boiling Point: | Not available |
| Freezing/melting point: | Not available |
| Solubility: | Disperses in water |
| Specific gravity or density: | 1.18 kg / litre |
| Information for flammable material including: | Not flammable |
| Auto – ignition Temperature: | N/A |
| Octanol/water partition coefficient: | Not Available |
| Explosion properties: | N/A |
| Oxidation properties: | N/A |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| Stability: | Stable under normal conditions |
| Conditions to avoid: | Excessive heat and cold |
| Materials to avoid: | Oxidising agents |
| Hazardous decomposition Products: | Evolution of toxic fumes in a fire which may include nitrogen oxides and hydrogen chloride. |
| Hazardous polymerization: | Will not occur |
| Specific Data: | N/A |
| Hazardous reactions : | None known |

11. TOXICOLOGICAL INFORMATION

ACUTE INHALATION EFFECTS

| | |
|----------------------------------|--|
| Acute toxicity – Oral : | Oral LD50 (rat): >5,000 mg/kg (low toxicity) |
| Acute toxicity - Dermal : | Dermal LD50 (rabbit): >2,400 mg/kg (low toxicity). |

| | |
|--|--|
| Acute toxicity – Inhalation: | Inhalation LC50 (rat): not determined. (Apollo SC proved to be too viscous for generation of an aerosol; risk of inhalation exposure is minimal.) |
| Skin irritation : | A mild skin irritant. |
| Eye irritation: | A slight eye irritant. |
| Sensitization : | Not a sensitiser |
| Chronic toxicity: | |
| The studies reported below were carried out with the Clofentezine Technical (96%). | |
| Carcinogenicity: | Clofentezine showed no adverse effect in a 115-week feeding study with rats at low dose levels of clofentezine. At the highest test dose of 400 ppm, treated rats had increased liver weight and male rats showed a slight increase in incidence of thyroid follicular cell tumors; the latter, however, is an indirect effect caused by stimulation of TSH hormone and is unlikely to occur in humans. EPA has interpreted this animal study result and placed clofentezine technical in carcinogenicity Category C, a possible human carcinogen under chronic exposure to extreme experimental dose. Similarly, in feeding studies with mice (105 weeks) and dogs (52 weeks), effects on organ weights were only observed at the highest test dose: female mice (5,000 ppm), increased liver weight, dogs (20,000 ppm), moderate liver toxicity, slight increases in adrenal weights (males) and thyroid weights (females). CARCINOGENICITY: NTP: NO IARC: No OSHA: No |
| Mutagenicity: | Clofentezine was not mutagenic or genotoxic when tested in the Ames gene mutation assay and four other mutagenesis systems. |
| Reproduction toxicity: | In a three-generation study in rats, clofentezine showed no adverse effects on fertility or reproductive performance at dose levels up to 400 ppm. |
| Other information : | TERATOGENICITY (BIRTH DEFECTS) Clofentezine demonstrated no teratogenic effects in fetuses of rats and rabbits given up to 3200 mg/kg/day and 3000 mg/kg/day, respectively. |

12. ECOLOGICAL INFORMATION

| | |
|--|--|
| ENVIRONMENTAL HAZARDS: | DO NOT apply to bodies of water. DO NOT contaminate sewers, drains, dams, creeks or any other waterways with product or empty container. |
| Ecotoxicity | |
| Fish – Rainbow Trout, Bluegill | No toxic effect at maximum achievable concentration in water. |
| Birds – Mallard Duck Bobwhite Quail | Acute oral LD ₅₀ >3000 mg/kg. Acute oral LD ₅₀ >7500 mg/kg. |
| Bees | Acute oral LD ₅₀ >20ug/bee, Contact LC ₅₀ >1500 ppm, stable to light and air, on hydrolysis (22oC) half-life DT ₅₀ 248hr (pH 5), 34hr (pH 7) and 4 hr (pH 9). |
| Mobility | Not available. |
| Water | Not available. |
| Soil | Not available. |

13. DISPOSAL CONSIDERATIONS

| | |
|--|--|
| Methods of disposal : | Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. CONTAINER DISPOSAL: Triple rinse (or equivalent) then burn if permitted and circumstances, especially wind direction permit. |
| UN number: | This material is not a dangerous good as defined by the International Maritime Dangerous Goods Code and the International Air Transport Association Dangerous Goods Regulations. |
| Class or Division: | N/A |
| Classification Code: | N/A |
| Packing Group: | III |
| Marine Pollutant: | No |
| Proper shipping name : | N/A |
| INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): | This material is not a dangerous good as defined by the International Air Transport Association Dangerous Goods Regulations. |

15. REGULATORY INFORMATION

| | |
|--------------------------------|------------------|
| ACVM Registered Number: | P3318 |
| HSNO Approval Code: | HSR000775 |

16. OTHER INFORMATION

| | |
|--------------------------------|---|
| Additional information: | Original Issue Date: 12 th September 2005 Revision Date: March 2014 Replaces: ES220 |
|--------------------------------|---|

Disclaimer EXCLUSION OF LIABILITY: PLEASE READ

This Safety Data Sheet is based on the most recent information available. To the extent permitted by law, users of this information accept that neither the manufacturer, Etec Crop Solutions Ltd as distributor, nor any other distributor have any liability or responsibility whatsoever for any loss, damage or injury whether in contract or tort, whether direct, indirect or consequential howsoever arising in connection with the supply of these information.

Apollo® is a registered trade mark of Makhteshim Agan, Israel