



Material Safety Data Sheet

Diafenthiuron 500 SC

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

PRODUCT NAME	: THUNDER 500 SC
Formulation Type	: Suspension concentrates
Active Ingredient	: Diafenthiuron
Chemical Type	: Thiourea
Poisons Schedule	: 5
USE	: Insecticide, Miticide for control of Two-spotted Mite in Cotton
Recommended use	: Insecticide
Manufacturer	: ANGLO GULF LIMITED
Address	: P.O. Box 16887, Jebel Ali, Dubai, U.A.E.
Tel	: +9714 8835039
Fax	: +9714 8835853
E: mail id	: agadxbme@emirates.net.ae
Website	: www.anglogulf.ae

2. HAZARDS IDENTIFICATION

HEALTH EFFECTS

Acute toxicity	: This product is moderately hazardous (WHO Hazard Class II)
Swallowed	: Low toxicity Tests indicate low toxicity following single doses of the undiluted product. (LD50 = 1950 mg/kg)
Dermal absorption	: Low toxicity Tests indicate a low toxicity due to skin contact of the undiluted product. (LD50 = >4000 mg/kg)
Inhaled	: Low toxicity Generation of a respirable aerosol was not possible in laboratory tests. Therefore inhalation is not a likely route of exposure to this product. The product can be considered to have low toxicity by inhalation.
Eye Irritation	: Slight irritant
Skin Irritation	: Slight irritant
Skin Sensitization	: Not a sensitizer

CHRONIC (Active Ingredient)

Diafenthiuron technical has been extensively tested on laboratory mammals and in test tube systems. No evidence of mutagenic, teratogenic or reproductive effects was obtained. Diafenthiuron induced increased lung weight correlated with increased incidences of pulmonary alveolar foam cells as the primary lesion in rats fed higher dose levels. The 18 months mice feeding study at high dose levels indicates that proliferate lesions (focal hyperplasia, adenoma, and carcinoma) occurred. It is concluded that the lesions are related to excessive toxicity and do not reflect any intrinsic oncogenic potential of the compound. This finding is not considered to be of relevance for humans. In the 1-year dog

P.O. Box 16887, Jebel Ali Free Zone,
Dubai, United Arab Emirates
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دبي - الإمارات العربية المتحدة
هاتف: +٩٧١ ٤ ٨٨٣ ٥٠ ٣٩ فاكس: +٩٧١ ٤ ٨٨٣ ٥٨ ٥٣
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study the main finding was edema of the pancreas at the high dose level. This effect was completely reversible with the one month recovery period.

3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	CAS No.	Concentration (g/l)
Diafenthuron (technical grade)	80060-09-9	500
Glycerine	56-81-5	100
Water		400

4. FIRST AID MEASURES

In case of poisoning by any exposure route contact a doctor or Poisons Information Centre.

- Swallowed** : If swallowed, contact medical care immediately.
Eye : If product gets in eyes, flush eyes with running water for at least 15 minutes.
Skin : If skin contact occurs, remove contaminated clothing and wash affected areas thoroughly with soap and water. Wash contaminated clothing before re-use.
Inhaled : Move affected person to fresh air and keep at rest until recovered.

ADVICE TO DOCTOR

No specific antidote exists. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazards from combustion products

Heating/combustion will generate oxides of carbon and nitrogen, bromine compounds and other irritant and toxic fumes.

FIRE/EXPLOSION HAZARD

This product is non-flammable. Extinguish warehouse and factory fires using fine-water spray or foam. When fighting a major fire wear a respirator. Do not allow fire-water to enter drains.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove all possible sources of ignition. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8

PERSONAL PROTECTION

Will irritate the eyes and skin. Avoid contact with eyes and skin. DO NOT inhale spray mist. When opening the container, preparing the spray and using the prepared spray wear:

- Cotton overalls buttoned to the neck and wrist,
- A washable hat, and
- Elbow length PVC gloves.

Wash hands after use. After each day's use, wash gloves and contaminated clothing.

Only use protective equipment bearing the mark of the Standards Association of Australia.

7. HANDLING AND STORAGE

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Handling: Keep out of reach of children. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour. If product in eyes washes 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 and contaminated clothing.

Storage: Store in the closed, original container in a cool, secure, well ventilated area. Do not store for prolonged periods in direct sunlight. Keep away from all ignition sources.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Precautions for fire fighters

EXPOSURE STANDARDS

Ingredient Occupational Exposure Limit

Glycerine mist 10 mg/m³ (NOHSC – time weighted average).

No official exposure standards have been set for the other ingredients in this product.

Exposure Potential : Swallowing is unlikely under normal conditions of usage. Skin uptake of Diafenthiuron can occur. Inhalation of the spray mist is a possible route of exposure. This product is mixed with water prior to use as a spray. This diluted form is less toxic by all exposure routes.

Re-entry Period : Do not allow entry into treated areas for 24 hours after treatment. When prior entry is necessary, limit duration of entry and wear cotton overalls buttoned to the neck and wrists, and elbow-length PVC gloves. Clothing must be washed after each day's use.

Cotton chippers : Do not allow entry into treated areas for 24 hours after treatment. When entering treated areas between 24-72 hours after treatment, wear cotton overalls buttoned to the neck and wrists (or equivalent clothing) and gloves. Clothing must be washed after each day's use.

ENGINEERING CONTROLS

No special requirements. Product is used outdoors. Manual flagging is not permitted during aerial spraying of Thunder.

Personal Protective Equipment

It is important to protect eyes and face. Wear face shield Wear cotton overalls buttoned to the neck and wrist and a washable hat. Wear elbow length PVC gloves. If working in a poorly ventilated area or if occupational exposure levels are likely to be exceeded, wear a respirator suitable for organic vapours

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Light grey fluid paste
Flash Point	: >100°C
Odour	: Non specific
Flammability	: Non-flammable
Vapour pressure	: Not available
Combustibility	: Non-combustible
Specific gravity	: 1.03 – 1.06 g/cm ³ (at 20°C)
Behaviour in water	: Dispersible
PH	: 7.0 - 7.5
Corrosiveness	: Non-corrosive

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10. STABILITY AND REACTIVITY

Chemical stability	: Stable under normal conditions of use.
Hazardous Polymerization	: Will not polymerise.
Conditions to avoid	: Avoid sources of ignition and extreme heat.
Incompatible materials	: Avoid oxidizing agents, strong acids and alkalis.
Hazardous decomposition products	: Heating/combustion will generate oxides of carbon and nitrogen and bromine compounds.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation

Inhalation of product vapour may cause transient irritation of mucous membranes (nose, throat and respiratory tract), may cause headaches, drowsiness, and dizziness, could be anaesthetic, and may have other central nervous system effects lasting for up to 24 hours.

Skin contact Irritating

Contact with the skin, especially the face, may result in initial stinging, burning or tingling sensations (fingertips, nose), followed by numbness or pain which may persist for up to 24 hours. (Although skin irritation tests in animals show deltamethrin to be none irritating, experience has shown it to cause these symptoms on human skin.) Repeated exposure may cause skin dryness or cracking.

Eye contact

May be severely irritating to the eyes.

Ingestion

Symptoms include burning sensations and numbness in the mouth and throat, headache, dizziness, drowsiness, diarrhoea, nausea, vomiting, listlessness, stomach pain, muscular twitching of arms or legs, unconsciousness, convulsions, and coma (very high doses). Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema.

Sensitization: Non sensitizing (guinea pig) (*similar product*)

12. ECOLOGICAL INFORMATION

Diafenthiuron is highly toxic to fish, aquatic organisms and bees in laboratory studies, but considered less toxic under natural conditions. DO NOT contaminate streams, rivers or waterways with SC or the used containers.

Ecotoxicity: Diafenthiuron

Fish toxicity :< 0.5mg/l

Bird toxicity :> 1500mg/kg

Acute oral: LD50 for bobwhite quail and mallard ducks >1500 mg/kg. Dietary

Environmental fate, persistence and degradability

Diafenthiuron is not persistent in the environment. It is destroyed by soil micro organisms and does not leave residues in the environment or build up in the food chain. One hydrocarbon solvent is volatile and will evaporate if released into water. The other hydrocarbon solvent has the potential to partition into the sediment and to bioconcentrate. Both solvents are biodegradable.

13. SPILL AND DISPOSAL CONSIDERATIONS

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In case of spillage it is important to take all steps necessary to:

- Avoid eye and skin contact.
- Avoid contamination of waterways.

Procedure for spill:

- (1) Keep all bystanders away.
- (2) Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves.
- (3) Reposition any leaking containers so as to minimize further leakage.
- (4) Dam and absorb spill with an absorbent material (e.g. sand or soil).
- (5) Shovel the absorbed spill into drums.
- (6) Dispose of the absorbed material will depend upon the extent of the spill.
 - For quantities up to 50L of product bury in a secure landfill site.
 - For quantities greater than 50L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established.
- (7) Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.

Dispose of empty, used containers by:

- (a) Triple rinsing or preferably pressure rinsing containers with water. Add the rinsing to the spray tank.
DO NOT dispose of undiluted chemicals on site.
- (b) If recycling, replace cap and return clean containers to recycler or designated collection point.
- (c) If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available; bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

STORAGE AND TRANSPORT

Store in tightly sealed original containers in a dry secure place away from fertilizers, seed, feed and food
Store out of direct sunlight. Keep out of reach of children, unauthorized persons and animals.

Transport Classification	: Sea (IMDG)
UN No.	: 3082
Proper Shipping Name	: Environmentally hazardous substance, liquid, n.o.s.(contains Diafenthiuron)
Class	: 9
Packing Group	: III
Additional Information	: DIAFENTHIURON 50%, MARINE POLLUTANT

15. REGULATORY INFORMATION

None

16. OTHER INFORMATION

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The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user's own assessment of work place risk as required by other health and safety legislation.

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