

UNIVERSAL COMPARE 480 SC

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: Compare 480 SC
 Insecticide
UN No.: 3082
Supplier: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
 PO Box 801,
 Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
 Bateleur: +27 83 1233 911 or +27 860 333 911
 (Client: Villa Crop Protection)

Poisoning:
 Griffon Poison Information Centre +27 82 446 8946
 Western Cape Poisons Tel. Service +27 861 555 777
 Tygerberg Hospital +27 21 931 6129

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: Thiachloprid
Chemical Name: (Z)-3-(6—Chloro-3-pyridylmethyl)-1,3-thiazolidin-2-ylidenecyanamide (IUPAC)
CAS No.: [111988-49-9]
Chemical Family: Chloronicotinoid
Chemical Formula: C₁₀H₉ClN₄S (Mol. wt.: 252.7)
Formulation: Thiachloprid: 480 g/l
 Suspension Concentrate
Use / Mode of Action: Acute contact and stomach poison, with systemic properties. For use by foliar application against sucking and biting insects in pome fruit, stone, stone fruit, small barriers and vegetables.

Hazardous Ingredient:
 Thiachloprid 48 %
 Inerts 52 %

SYMBOLS: Xi, Xn, N
RISK-PHASE(S): R 20/22, R 40, R 43, R 48/22, R 63

3. HAZARD IDENTIFICATION

Toxicity class:
 WHO (ai.) II. Moderate hazardous.
 May cause irritation to skin and eyes irritation. May cause skin sensitisation by contact.

Very toxic to fish, aquatic invertebrates and marine/estuarine organism.

4. FIRST AID MEASURES AND PRECAUTIONS

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.

Symptoms of human poisoning

This product may be fatal if swallowed. The product is harmful if inhaled or absorbed through the skin. Prolong or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid breathing spray mist. Avoid contact with skin, eyes, and clothing.

Inhalation:

Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Avoid mouth-to-mouth resuscitation. Keep person warm and at rest. Treat symptomatically and supportively as and when required. **Seek medical advice immediately.**

Skin contact:

Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.

Eye contact:

Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, get medical attention.

Ingestion:

Have victim rinse mouth thoroughly with water. **Do not induce vomiting, due to the aromatic solvent. Seek medical advice immediately.** If the person is alert and respiration is not depressed, give large quantity of water to drink. Never give anything by mouth to an unconscious person. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel should perform administration of gastric lavage or oxygen.

Advice to physician

There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's conditions is recommended.

5. FIRE FIGHTING MEASURES

Fire/Explosion hazard:

Non-flammable
Flash point: >100 °C

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In the event of fire the following can be released: hydrogen chloride (HClO), carbon monoxide (CO). Nitrogen oxides (NOx), Hydrogen cyanide (hydrogen acid), sulphur oxides.

Extinguishing agents:

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Fire fighting:

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Personal protective equipment:

Fire may produce irritating or poisonous vapours or gases (oxides of chlorine and sulphur) or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (Spillage)

Personal precautions:

Avoid contact with skin and eyes. Do not breathe in fumes or mist. For personal protection see Section 8.

Environmental precautions:

Do not apply on directly to water, to areas where surface water is present or to intertidal areas below the mean mark. Do not contaminate water by disposal of equipment washwaters. See "Storage, shipment and Disposal" section. In case of spills properly dispose of contaminated materials.

Occupational spill:

Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals. Keep spills and clean runoff out of municipal sewers and open bodies of water

For spills: Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry

container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited. Do not get water inside containers.

7. HANDLING AND STORAGE REQUIREMENTS

Handling:

Harmful if swallowed. Avoid inhalation and contact with eyes and skin. Use with adequate ventilation. Do not handle broken packages without protective equipment. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Seek medical advice.

Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Worker should shower at the end of each work day. Launder all clothing before it is re-used again.

Storage:

Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs and water supplies.

Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

Storage stability:

Stable, avoid excessive heat and moisture conditions.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT:

Respirator:

An approved full-face respirator suitable for protection from spray or mists of pesticides is required. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

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Clothing:
 Employee must wear appropriate protective (impervious) clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Gloves:
 Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

Eye protection:
 The use of chemical resistant goggles or face shield.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

300- 500 mg/kg (Formulation)
Acute dermal LD₅₀:
 >2000 mg/kg in rabbits (tech.)
 >4000 mg/kg (formulation)
Acute inhalation LC₅₀:
 >2535 mg/m³ for male, 1223 mg/m³ for males (Tech)
 1.0 to 2.2 mg/ℓ in females, >2.2 mg/ℓ for males rats (Formulation)
Acute skin irritation:
 Mild skin irritant
Acute eye irritation:
 Mild irritant to eyes
Sensitization
 Non-skin sensitiser
Chronic Toxicity:

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:
 Suspension concentrate/ liquid

Odour:
 Odourless

Relative density:
 1.20 g/mg at 20 °C.

Solubility in water:
 Soluble

Viscosity:
 126000 mPa.s. at 20 °C

Flash point:
 >100 °C

Flammability:
 Non-Flammable

pH:
 4 to 9

pH of 1% aqueous dilution
 Not available

Thiacloprid caused secondary effect due to significant liver enzyme induction in the liver, thyroid, adrenals, uterus and /or ovaries in chronic studies in rats, mice and dogs.

Reproductive & development
Thiacloprid is not considered a primary reproductive toxicant in rats. Reproductive effects were observed but were considered secondary to maternal toxicity. It is not considered a primary development toxicant in rats and rabbits. Developmental effects were observed at doses that cause maternal toxicity.

Neurotoxic
Thiacloprid was not a neurotoxicant in acute. Sub-chronic and developmental neurotoxicity screening studies in rats.

Mutagenicity:
Thiacloprid was not genotoxic based on the overall weight of evidence in battery of vitro and vivo test.

Carcinogenicity:
Thiacloprid demonstrated evidence of oncogenicity in life time feeding studies in rats (thyroid and uterus) and mice (ovary). These effects, however, were observed only at high doses, which did not affect hepatic enzyme activity. At low doses, which did not affect hepatic enzymes, there was no evidence of oncogenicity

ADI: 0.01 mg/kg b.w. [2006] (tech.)

10. STABILITY AND REACTIVITY

Stability:
 Considered stable for a period of 2 years under recommended warehouse and light conditions. Decomposes above melting point, stable on visible light.

Condition to avoid:
 Avoid excessive heat and moisture conditions.

Hazardous decomposition:
 No data available.

Hazardous Polymerisation:
 Not known to occur.

12. ECOLOGICAL INFORMATION

In animals: **Thiacloprid** was quickly and completely absorbed from gastrointestinal tract, followed by a fast and uniform distribution to the tissues of the rats. The major portion of the administered dose was quickly eliminated with urine and faeces. There was no indication of accumulative behaviour in rats. Beside the parent compound, 26 metabolites were identified in urine and faeces. Metabolisms proceed by the oxidation of the thiazolidine ring, hydroxylation of the thiazolidine ring and the cyanamide moiety, opening the thiazolidine ring and oxidative cleavage of the methyl bridge. In goats the

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀:
 621 to 836 mg/kg for male; 396 to 444 mg/kg for female in rats (tech.)

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compound was also found quickly excreted, mainly with the urine. Only very small amount was secreted with the milk. Similarly in poultry, only a minute amount was found in the eggs.

In plants: Metabolism in tomatoes, apples, cotton and wheat, after spray application and in rice, after nursery box treatment, is similar in all crops. The parent compound is always the major component at harvest. Hydrolysis, oxidation and conjugation of the parent compound were the main degradation steps.

In the soil: Soil DT₅₀ (6 soils) 7-21 d. soil mobility (6 soils) low to medium. Mean K_{oc} 615 (6 soils)

ECOTOXICOLOGY:

Birds:

LD₅₀: Bobwhite quail: > 2716 mg/kg (tech.)
 LC₅₀ 5-day diet: Bob white quail :> 5459 mg/kg (tech.)

Fish:

LC₅₀ (96 hours): Bluegill sunfish: 80.7 mg/l (formulation)
 Rainbow trout: 30.5 mg/l (tech.)

Daphnia:

Daphnia magna: 48-hour LC₅₀: ≥85.1 mg/l (formulation)

Bees:

LD₅₀ oral (90 hours): > 17.32 µg/bee (tech.)
 Contact 38.83 µg/bee (tech.)

Earthworms:

Eisenia foetida LC₅₀ (14 d, 20 °C) 105 mg/kg (tech.)

Algae and Aquatic plants:

Desmodesmus subspicatus LD₅₀ 96.7 mg/l (72h) (tech.)

13. DISPOSAL CONSIDERATION

Pesticide disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Comply with local legislation applying to waste disposal.

Container disposal:

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of a third of that of the container. Add the rinsing to the

contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN No.: 3082
Road Transport ADR/IRD:
 Class: 9
 Packing group: III
 Shipping name: Environmentally Hazardous Substance, Liquid, N.O.S
Thiacloprid 480 g/l

Maritime Transport IMDG/IMO:

Class: 9
 Packing group: III
 Shipping name: Environmentally Hazardous Substance, Liquid, N.O.S
Thiacloprid 480 g/l

15. REGULATORY INFORMATION

Symbol: X_n, Xi, N
Indication of danger: Harmful, Irritant and Environmentally Hazardous Substance.

Risk phrases:

R 20/22 Harmful by inhalation and if swallowed.
R 21 Harmful to eyes and skin.
R 40 Limited evidence of carcinogenic effect.
R 40/22 Harmful: possible risk of irreversible effect if swallowed.
R 43 May cause sensitization by skin contact
R 50/53 Very Toxic to aquatic organisms, may cause long-term adverse effect on the environment
R 63 Possible risk of harm the unborn child.

Safety phrases:

S 1/2 Keep locked up and out of the reach of children.
S 3/7/9 Keep container tightly closed in cool, well-ventilated place
S 13 Keep away from food, drinks and animal feedingstuffs.
S 15 Keep away from heat
S 24/25 Avoid contact with skin and eyes.
S 29/35 Do not empty into drains; dispose of this material and its container in a safe way
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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- S 42** During fumigation and spraying wear suitable respiratory equipment.
- S 45** In case of an accident or if you feel unwell, seek for medical advice
- S 60** This material and its container must be disposed of as hazardous waste.
- S 61** Avoid release into the environment. Refer to special instructions/ safety data sheets.

16. OTHER INFORMATION

Packing and Labelling:

Packed in 1, 5, 10, 20, 25 and 50 litres fluorinated plastic containers and labelled according to the South African regulations and guidelines.

Disclaimer:

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 use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

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

END OF DOCUMENT

Compiled: August 2011

Reviewed: February 2017