

MATERIAL SAFETY DATA SHEET OF TEBUTHIURON 20%G

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tebuthiuron 20%G

Company : Namibia Agricultural Distributors cc
PO Box 80266, Windhoek, Namibia
TEL: +264 81 1286821
TEL: +264 81 1289821

Chemical Name of Active Ingredient (IUPAC):

1-(5-tert-butyl-1,3,4-thiadiazol-2-yl)-1,3-dimethylurea

Chemical Class: Herbicide

Chemical Formula of Active Ingredient: C₉H₁₆N₄OS

CAS Registry Number: 34014-18-1

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Content (g/kg)
Tebuthiuron	34014-18-1	min.200
Kaolin clay	1332-58-7	max.600
Talc	NA	max .160
Mortwet EFW	NA	max .40

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview:

Hazardous chemical. Blue pellet. Faint musty odor. May cause slight eye irritation with corneal injury. LD50 for skin absorption in rabbits is >2000 mg/kg. Oral LD50 for rats is > 2000mg/kg. Will emit toxic fumes if involved in a fire. Toxic to fish.

Potential Health Effects:

This section includes possible adverse effects which could occur if this material is not handled in the recommended manner.

Eye: May cause slight eye irritation with corneal injury.

Skin: Essentially non-irritating to skin. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD50 for skin absorption in rabbits is >2000mg/kg.

Ingestion: Single dose oral toxicity is low. The oral LD50 for rats is >2000mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however,

swallowing larger amounts may cause injury.

Inhalation: At room temperature, vapors are minimal due to physical properties; a single exposure is not likely to be hazardous.

Systemic (other target organ) effects: In animals, has been shown to cause RBC, kidney and pancreatic effects.

Cancer information: Tebuthiuron did not cause cancer in laboratory animals. Crystalline silica is listed as a carcinogen for hazard communication purposes under OSHA Standard 29 CFR Part 1910.1200. The clay component may contain crystalline silica, which has caused cancer in laboratory animals.

Teratology (birth defects): For tebuthiuron, birth defects are unlikely. Even exposures having an adverse effect on the mother should have no effect on the fetus.

Reproductive effects: Tebuthiuron, did not interfere with reproduction in animal studies.

SECTION 4: FIRST AID MEASURES

General:

Consult a Doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

Swallowed:

If swallowed, contact a doctor immediately.

Skin:

If on skin, remove contaminated clothing and wash skin thoroughly with soap and water.

Eyes:

If in eyes, hold eyes open and flood with water for at least 15 minutes and see a doctor.

Inhalation:

If affected, remove from contaminated area to fresh air. If ill-effects persist, consult a doctor.

SECTION 5: FIRE FIGHTING MEASURES

Flashpoint: Does not burn.

Flammability limits: Not applicable.

Special Fire Fighting procedures:

When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and respirator. All skin areas should be covered. Ensure that no spillage enters drains or water courses.

Unusual Fire & Explosion Hazards:

Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces.

Stability:

This product is unlikely to spontaneously decompose.

Polymerisation:

This product is unlikely to spontaneously polymerise.

Decomposition Products:

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, and under some circumstances, oxides of nitrogen. Oxides of sulfur. Water.

Materials to avoid:

No particular incompatibilities.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Action to take for spills:

Contain and sweep up material of small spills and dispose of waste. Report large spills to Namagri cc on +264 81 1286821. Prevent runoff.

SECTION 7: HANDLING AND STORAGE

Store in the closed original container in a cool, dry, well-ventilated area, out of direct sunlight. Avoid contact with food, feed stuffs, fertilizers and seeds.

Precautions to be taken in handling and storage:

Handling: keep out of reach of children. Causes eye irritation. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing dust and contact with skin, eyes or clothing. Wash thoroughly with soap and wash after handling. Remove contaminated clothing and wash before reuse. Storage: Store in the original container in a dry area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protection And Safety Directions

After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

EXPOSURE STANDARDS

A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established for any of the major ingredients in this product. There is a blanket limit of 10mg/m³ for dusts or mists when limits have not otherwise been established. The nature of this product makes it unlikely that this level will be approached in normal use.

ENGINEERING CONTROLS

In industrial situations, concentrated values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe airborne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Blue pellets

Boiling point: No specific data, expected to decompose before boiling

Volatile materials: No specific data, expected to be low at 100oC

Flashpoint: Does not burn

Bulk density: 960-1120 g/kg

Solubility in water: Disperses as a suspension

Corrosiveness: Not corrosive

Vapour Pressure: 20 x 10⁻⁶ mm Hg at 25oC (tebuthiuron)

SECTION 10: STABILITY AND REACTIVITY

Stability:

Stable at 52 °C (highest storage temperature tested). Stable in aqueous media between pH 5 and 9. On hydrolysis, DT₅₀(25°C)>64 d

Small quantities and containers:

Puncture and shred and bury empty containers in a local authority

landfill. If no landfill is available, bury the container below 50 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.

Incompatibility:

Not known.

Hazardous decomposition products:

Oxide of nitrogen and sulfur may be formed if product is involved in fire.

Hazardous polymerization:

Not known to occur.

SECTION 11 : TOXICOLOGICAL INFORMATION

Acute Swallowed:

The oral LD50 (rat) is above 500 mg/kg (moderate toxicity).

Eye:

May cause temporary, moderate eye irritation.

Skin:

The acute dermal LD50 (rabbit) is above 2000 mg/kg (low toxicity).

Inhaled:

Health effects from this exposure are unlikely due to the pelleted formulation.

Chronic :

Possible chronic health effects from exposure to Destroyer Mono Granules are based on the active ingredient. Rats and mice administered the active ingredient, tebuthiuron, in chronic carcinogenicity studies showed no increase in tumours when compared to the untreated group. Studies in rats indicated that tebuthiuron does not cause birth defects or interfere with reproduction. Tebuthiuron does not cause genetic change and does not accumulate in the body. The ingredients are not listed as carcinogenic in NOHSC's document "Exposure Standards for Atmospheric Contaminants in the Occupational Environment" (May 1995).

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY DATA

Tebuthiuron has low toxicity to birds, fish, aquatic organisms, earthworms

and livestock. It is not toxic to honey bees. May have slight toxicity to blue-green algae found in soil structure. Tebuthiuron will not bio-accumulate in animal systems.

ENVIRONMENTAL FATE

Tebuthiuron has a half-life of twelve to fifteen months in most soils depending on soil type and climatic conditions. Tebuthiuron may leach up to 60 cm into soil structure. Under normal climatic conditions a small amount of tebuthiuron may run off into surface water. This has been shown to dissipate and not persist in aquatic ecosystems. Tebuthiuron is unlikely to contaminate ground water. It leaches slowly into the soil profile and binds to the soil particles. As tebuthiuron is applied in a "once only" application, the concern for movement of the chemical in the environment is reduced.

SECTION 13 : DISPOSAL CONSIDERATIONS

Wear protective equipment (see PERSONAL PROTECTION). Clear area of all unprotected personnel. Prevent entry of chemical or used/damaged containers into drains, streams or waterways.

Small Spill:

Sweep up material and contain in a refuse vessel for disposal.

Large Spill:

Place leaking containers into salvage drums. Sweep up material and contain in a refuse vessel for disposal.

Disposal method:

Contaminated material must be disposed of in accordance with all State and/or Local regulations.

SECTION 14: TRANSPORT INFORMATION

IMO classification: Marine Pollutant.

DOT/IMO Hazard Class 9, Miscellaneous;

Proper shipping name: environmentally hazardous substance, solid, N.O.S. (Tebuthiuron TC)

Packaging group : III

UN number : 3077

Hazard class : 9

SECTION 15: REGULATOR INFORMATION

European/International Regulation:

Hazard Codes : Xi,N

Risk phrases:

R20/21/22 : Harmful by inhalation, in contact with skin and if swallowed.
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed

Safety Phrases:

S 1/2 keep locked-up and out of reach of children
S13 keep away from food, drink and animal feeding stuffs
S20/21 When using do not eat or drink animal feeding stuffs
S22 Do not breathe dust.
S24/25 Avoid contact with skin and eyes
S36/37 Wear suitable protective clothing and gloves
S45 In case of accident or if you feel unwell, seek medical advice
 immediately (show the label where possible)

SECTION 16: OTHER INFORMATION

Disclaimer: the information provided by Namagri cc contained herein given in good faith and to the best of our knowledge.