

**Section 1 - Identification of Chemical Product and Company**

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<b>Substance:</b>	Tebuthiuron is a urea derivative.
<b>Trade Name:</b>	<b>Scrubmaster Herbicide</b>
<b>Product Use:</b>	Agricultural herbicide for use as described on the product label.
<b>APVMA Number:</b>	64267

**Section 2 - Hazards Identification****Statement of Hazardous Nature**

This product is classified as: Xn, Harmful. Xi, Irritating. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** R22, R36. Harmful if swallowed. Irritating to eyes.

**Safety Phrases:** S20, S22, S36, S24/25. When using, do not eat or drink. Do not breathe dust. Wear suitable protective clothing. Avoid contact with skin and eyes.

**SUSDP Classification:** S6

**ADG Classification:** None allocated. Not a Dangerous Good under the ADG Code.

**UN Number:** None allocated

**Emergency Overview**

**Physical Description & Colour:** Off-white pellets.

**Odour:** Negligible odour.

**Major Health Hazards:** Tebuthiuron has moderate to low toxicity in experimental animals when ingested and by skin exposure. Tebuthiuron did not induce sensitization or allergic reactions when tested on the skin of guinea pigs. Application to the eyes of rabbits produced short-term conjunctivitis, inflammation of the lining of the eye, but no irritation to other eye parts, the cornea, or the iris. The inhalation by animals of 3.7mg/L technical Tebuthiuron for 4 hours did not cause toxicity. Product is said to be harmful if swallowed, and an eye irritant.

**Potential Health Effects****Inhalation:**

**Short Term Exposure:** Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** This product is carcinogenic by inhalation exposure.

**Skin Contact:**

**Short Term Exposure:** Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term skin exposure.

**Eye Contact:**

**Short Term Exposure:** This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

**Long Term Exposure:** No data for health effects associated with long term eye exposure.

**Ingestion:**

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term ingestion.

**Carcinogen Status:**

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

**Section 3 - Composition/Information on Ingredients**

Ingredients	CAS No	Conc,%	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Tebuthiuron	34014-18-1	200g/kg	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

**Section 4 - First Aid Measures****General Information:**

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Skin Contact:** Gently brush away excess solids. Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

**Eye Contact:** Quickly and gently brush particles from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

**Section 5 - Fire Fighting Measures**

**Fire and Explosion Hazards:** There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** No data

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** No data.

**Section 6 - Accidental Release Measures**

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective

clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that dusts are likely to build up in cleanup area, we recommend that you use a suitable Dust Mask. Use a P1 mask, designed for use against mechanically generated particles eg silica & asbestos. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Consider vacuuming if appropriate. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

### Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Check packaging - there may be further storage instructions on the label.

### Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

#### SWA Exposure Limits

#### TWA (mg/m<sup>3</sup>)

#### STEL (mg/m<sup>3</sup>)

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**Eye Protection:** Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

**Skin Protection:** You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber, PVC.

**Respirator:** If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable Dust Mask.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

### Section 9 - Physical and Chemical Properties:

**Physical Description & colour:** Off-white pellets.

**Odour:** Negligible odour.

**Boiling Point:** Not available.

**Freezing/Melting Point:** No specific data. Solid at normal temperatures.

**Volatiles:** No specific data. Expected to be low at 100°C.

**Vapour Pressure:** Negligible at normal ambient temperatures.

**Vapour Density:** No data.

<b>Specific Gravity:</b>	No data.
<b>Water Solubility:</b>	Dispersible.
<b>pH:</b>	No data.
<b>Volatility:</b>	Negligible at normal ambient temperatures.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water Distribution:</b>	No data.
<b>Autoignition temp:</b>	No data.

### Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** water, acids, strong oxidising agents.

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

### Section 11 - Toxicological Information

**Toxicity:** Tebuthiuron has moderate to low toxicity in experimental animals when ingested. Reported oral LD<sub>50</sub> values for Tebuthiuron are 644mg/kg in rats, 579mg/kg in mice, 286mg/kg in rabbits, greater than 200mg/kg in cats, and greater than 500mg/kg in dogs. Tebuthiuron is of slight to low toxicity by skin exposure. The dermal LD<sub>50</sub> for Tebuthiuron in rabbits is greater than 200mg/kg. Neither skin irritation nor general overall intoxication were produced in rabbits that had 200mg/kg of the material applied to their skin. Tebuthiuron did not induce sensitization or allergic reactions when tested on the skin of guinea pigs. Application of 67 mg herbicide in the eyes of rabbits produced short-term conjunctivitis, inflammation of the lining of the eye, but no irritation to other eye parts, the cornea, or the iris. The inhalation by animals of 3.7mg/L technical Tebuthiuron for 4 hours did not cause toxicity.

**Chronic toxicity:** Decreases in body weight gain and red-blood cell counts, along with minor effects on the pancreas were seen in rats fed 125mg/kg/day for 3 months. Exposure of rats to dietary doses of Tebuthiuron as high as 80mg/kg/day for 2 years was well tolerated, with no indication of cumulative toxicity or serious effects. Similarly, no toxic effects were observed in mice exposed to doses as high as 200mg/kg/day for most of their lifetime, or in dogs given doses of 25mg/kg/day for 1 year.

**Reproductive effects:** The reproductive capacity of rats fed dietary concentrations of Tebuthiuron as high as 56mg/kg/day was unimpaired through three successive generations, and no abnormalities were detected in either parents or offspring. Tebuthiuron administered to pregnant rabbits at doses as high as 25mg/kg/day, and to rats at doses as high as 180mg/kg/day, produced no adverse effects on either the mothers or offspring. Based on these data, it is unlikely that Tebuthiuron causes reproductive effects.

**Teratogenic effects:** No teratogenic effects were observed when rats were fed Tebuthiuron at 180mg/kg/day. A rabbit teratology study was also negative at 25mg/kg/day, the highest dose tested. Based on these data, it is unlikely that Tebuthiuron causes birth defects.

**Mutagenic effects:** The Ames mutagenicity assay for Tebuthiuron was negative, as were assays for structural chromosome aberrations using mouse micronuclei. Based on these data, it seems that Tebuthiuron is not mutagenic.

**Carcinogenic effects:** No tumour related effects were observed in a 2-year rat feeding study at doses up to and including 80mg/kg/day, the highest dose tested. A 2-year oncogenic study on mice was negative at 200mg/kg/day, the highest dose tested. These data indicate that Tebuthiuron is not carcinogenic.

**Organ toxicity:** Damage to the pancreas has been seen in animal studies as a result of exposure to Tebuthiuron.

**Fate in humans and animals:** In rats, rabbits, dogs, mallards, and fish, Tebuthiuron is readily absorbed into the bloodstream from the gastrointestinal tract, rapidly metabolized, and then excreted in the urine. Tests indicate that the herbicide is broken down and excreted within 72 hours, primarily as a variety of urinary metabolites.

**Classification of Hazardous Ingredients**

Ingredient	Risk Phrases
Tebuthiuron	Conc>=25%: Xn; R22

**Section 12 - Ecological Information**

This product is not readily biodegradable. However, likely to degrade slowly in the soil or water and not cause long term problems.

**Effects on birds:** Tebuthiuron is practically nontoxic to birds. The reported oral LD<sub>50</sub> values are greater than 2500mg/kg in both mallard ducks and bobwhite quail. A 30-day feeding of 1000 ppm Tebuthiuron to hens had no effect.

**Effects on aquatic organisms:** Tebuthiuron is slightly to practically non-toxic to fish and other aquatic species. The reported 96-hour LC<sub>50</sub> values are 87-144mg/L in rainbow trout, and 87 to 112mg/L in bluegill sunfish. The reported 96-hour LC<sub>50</sub> values are greater than 160mg/L in goldfish and fathead minnow. The 48-hour LC<sub>50</sub> in Daphnia, an aquatic invertebrate, is 225mg/L. The LC<sub>50</sub> in fiddler crab is greater than 320mg/L; the LD<sub>50</sub> in pink shrimp is more than 48mg/L.

**Effects on other organisms:** Tebuthiuron is slightly toxic to bees with a reported contact LD<sub>50</sub> of 30mg/bee. Tebuthiuron may be harmful to non-target plants.

**Environmental Fate:**

**Breakdown in soil and groundwater:** Tebuthiuron is highly persistent in soil. Reported field half-lives are from 12 to 15 months in areas with over 100cm annual rainfall, with longer half-lives expected in drier areas or in soils with high organic matter content. Tebuthiuron is broken down slowly in the soil through microbial degradation.

Photodecomposition, or breakdown by sunlight, is negligible, as is volatilization (or evaporation from the soil surface). It is poorly bound to soil, suggesting high mobility. In field studies, however, little or no lateral movement has been seen in soils with appreciable clay or organic matter content. Neither Tebuthiuron nor its degradation products have been detected below the top 60cm of soil in field studies. It was found in some groundwater samples in Western of USA at levels up to 3.8µg/L.

**Breakdown in water:** No degradation was observed in a 33-day study of photolysis of Tebuthiuron in water.

**Breakdown in vegetation:** Tebuthiuron is readily absorbed through roots and translocated to other plant parts. It produces its effect by inhibiting photosynthesis, the process by which plants receive light from the sun and convert it into energy.

**Section 13 - Disposal Considerations**

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

**Section 14 - Transport Information**

**ADG Code:** This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

**Section 15 - Regulatory Information**

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredient: Tebuthiuron, is mentioned in the SUSDP.

**Section 16 - Other Information**

This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

**DISCLAIMER**

This product must be used, stored and handled strictly as directed in accordance with this Safety Data Sheet, the label, packaging and other reference material ("Directions"). To the extent permitted by law Cheminova Pty Ltd and its related companies will have no liability for any injury, loss or damage arising from a failure to follow the Directions.

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**FOR 24 HOUR ADVICE IN AN EMERGENCY ONLY PHONE 1800 033 111**

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