

Section 1 - Identification of The Material and Supplier

Granular Products Pty Ltd
13 Green Lane
Orange, NSW 2800

Phone: 02 6362 8220 (office hours)
Fax: 02 6360 1970

Chemical nature: Tebuthiuron is a urea derivative.
Trade Name: **GP Regain 400 Herbicide**
Product Use: Agricultural herbicide for use as described on the product label.
Creation Date: **December, 2014**
This version issued: **May, 2018** and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

SUSMP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

UN Number: None allocated



GHS Signal word: WARNING

Acute Toxicity Oral Category 4

Serious eye damage/eye irritation Category 2B

Hazardous to aquatic environment Short term/Chronic Category 1

HAZARD STATEMENT:

H302: Harmful if swallowed.

H320: Causes eye irritation.

H410: Very toxic to aquatic life with long lasting effects.

PREVENTION

P102: Keep out of reach of children.

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

P281: Use personal protective equipment as required.

RESPONSE

P352: Wash with plenty of soap and water.

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: Not combustible. Use extinguishing media suited to burning materials.

STORAGE

P410: Protect from sunlight.

P402+P404: Store in a dry place. Store in a closed container.

P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & Colour: Beige granulated solid.

Odour: No data re 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.

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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. This product is harmful if swallowed.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Tebuthiuron	34014-18-1	400g/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 SDS 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 particles. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water 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 until the particles are removed, while holding the eyelid(s) open. Obtain medical attention if irritation persists, or if particles are lodged in surface of the eye(s). 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: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. 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: Not combustible. Use extinguishing media suited to burning materials.

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

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include cotton, 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.

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 SDS 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.

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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 SDS 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**, Occupational Protective Clothing: **AS/NZS 4501 set 2008**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits

TWA (mg/m³)

STEL (mg/m³)

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

The ADI for Tebuthiuron is set at 0.07mg/kg/day. The corresponding NOEL is set at 7mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2013.

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: Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

Skin Protection: The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

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

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Beige granulated solid.
Odour:	No data re odour.
Boiling Point:	No specific data. Expected to decompose before boiling.
Freezing/Melting Point:	No specific data. Solid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	Negligible at normal ambient temperatures.
Vapour Density:	Not applicable.
Specific Gravity:	No data. Bulk density 0.925
Water Solubility:	Wettable.
pH:	7.3 (1% in water, 20°C)
Volatility:	Negligible at normal ambient temperatures.
Odour Threshold:	No data.
Evaporation Rate:	Not applicable.
Coeff Oil/water Distribution:	No data
Viscosity:	Not applicable.
Autoignition temp:	Not applicable - does not burn.

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.

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Incompatibilities: strong acids, strong bases, strong oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. 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 LD₅₀ 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 LD₅₀ 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 appears 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 observed 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. There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

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

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: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. In addition product is unlikely to cause any discomfort in normal use.

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

Eye Contact:

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Short Term Exposure: This product is likely to be mechanically irritating. If exposure is minor or brief, no long term effects should result. However, if material is not removed promptly, scratches to surface of the eye may result with long term consequences.

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 12 - Ecological Information

Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on birds: Tebuthiuron is practically nontoxic to birds. The reported oral LD₅₀ 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 LC₅₀ values are 87-144mg/L in rainbow trout, and 87 to 112mg/L in bluegill sunfish. The reported 96-hour LC₅₀ values are greater than 160mg/L in goldfish and fathead minnow. The 48-hour LC₅₀ in Daphnia, an aquatic invertebrate, is 225mg/L. The LC₅₀ in fiddler crab is greater than 320mg/L; the LD₅₀ in pink shrimp is more than 48mg/L.

Effects on other organisms: Tebuthiuron is slightly toxic to bees with a reported contact LD₅₀ 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 3.8 µg/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

UN Number: This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. 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 SUSMP.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)

AICS Australian Inventory of Chemical Substances

SAFETY DATA SHEET

Issued by: Granular Products Pty Ltd

Phone: 02 6362 8220 (office hours)

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)

SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS 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 MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)
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<http://www.kilford.com.au/> Phone (02)9251 4532

SAFETY DATA SHEET