

## Section 1 - Identification of the Material and Supplier

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**Chemical nature:** Suspension concentrate containing simazine

**Trade Name:** **Simplex 500 SC Herbicide**

**APVMA Code:** 68981

**Product Use:** Agricultural herbicide for use as described on the product label.

**Creation Date:** **July, 2016**

**This version issued:** **July, 2021** and is valid for 5 years from this date.

**Poisons Information Centre: Phone 13 1126 from anywhere in Australia**

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

This product is classified as: 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:** None allocated.

**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

Carcinogenicity Category 2

Hazardous to aquatic environment Short term/Chronic Category 1

#### HAZARD STATEMENT:

H351: Suspected of causing cancer.

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

#### PREVENTION

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

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

P273: Avoid release to the environment.

P281: Use personal protective equipment as required.

#### RESPONSE

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

P308+P313: If exposed or concerned: Get medical advice.

P391: Collect spillage.

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

#### STORAGE

P405: Store locked up.

#### DISPOSAL

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

## Emergency Overview

**Physical Description & Colour:** White to buff coloured viscous liquid.

**Odour:** Mild odour.

**Major Health Hazards:** Suspected of causing cancer.

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### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, g/L	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Simazine	122-34-9	500	not set	not set
Other non hazardous ingredients	secret	to 1 L	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:** Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

**Eye Contact:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or 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:** When fighting fires involving significant quantities of this product, wear a splash suit complete with self contained breathing apparatus.

**Flash point:** Not flammable.

**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. As a minimum, wear overalls, goggles and gloves. No special recommendations for clothing materials. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. 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:** 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. Some liquid preparations settle or separate on standing and may require stirring before use. 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**. Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Simazine is set at 0.005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2014.

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 where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**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: PVC.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

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:** White to buff coloured viscous liquid.

**Odour:** Mild odour.

**Boiling Point:** Approx 100°C at 100kPa

**Freezing/Melting Point:** Below 0°C.

**Volatiles:** Water component.

**Vapour Pressure:** 2.37 kPa at 20°C

**Vapour Density:** No data.

**Specific Gravity:** Approx 1.13

**Water Solubility:** Completely soluble.

**pH:** No data.

**Volatility:** No data.

**Odour Threshold:** No data.

**Evaporation Rate:** No data.

**Coeff Oil/water Distribution:** No data

**Autoignition temp:** 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:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

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

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**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. 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:** An information profile for Simazine is available at <http://extoxnet.orst.edu/pips/ghindex.html>

**Acute toxicity:** The reported oral LD<sub>50</sub> for technical Simazine in rats and mice is >5000 mg/kg; its dermal LD<sub>50</sub> is 3100 mg/kg in rats and > 10,000 mg/kg in rabbits. The 4-hour inhalation LC<sub>50</sub> in rats is greater than 2 mg/L. The formulated products, in most cases, are less toxic via all routes. Simazine is non-irritating to the skin and eyes of rabbits except at high doses. Symptoms exhibited by poisoned sheep included lower food intake, higher water intake, uncoordination, tremors, and weakness, especially in the hindquarters.

**Chronic toxicity:** Some 90-day feeding studies showed reduced body weight at 67 to 100 mg/kg/day. This same effect and kidney toxicity were seen in rats at doses of 150 mg/kg/day. In 2-year chronic oral feeding studies in which rats were given daily dosages of 5 mg/kg/day of Simazine in the diet, no gross or microscopic signs of toxicity were seen. When rats were given repeated doses of 15 mg/kg/day, some liver cells degenerated during the first 3 days, but the condition did not progress. Instead, the liver adapted and the compound was metabolized. Other effects observed in test animals include tremors, damage to the testes, kidneys, liver, and thyroid, disturbances in sperm production, and gene mutations.

**Reproductive effects:** No adverse effects on reproductive capacity or development were observed in a three-generation study of rats fed 5 mg/kg/day Simazine. Reproductive effects are not likely in humans under normal circumstances.

**Teratogenic effects:** No dose-related teratogenic effects were observed when rabbits were given daily doses of 5, 75, or 200 mg/kg for days 7 through 19 of pregnancy. Simazine does not appear to be teratogenic.

**Mutagenic effects:** Simazine has shown negative results in a variety of mutagenicity tests on bacterial cultures. It is likely that Simazine is either nonmutagenic or weakly mutagenic.

**Carcinogenic effects:** Simazine was not tumorigenic in mice at the maximum tolerated dose of 215 mg/kg/day over an 18-month period. In other studies, doses as low as 5 mg/kg/day produced excess tumours (thyroid and mammary) in female rats. Because of inconsistencies in the data, it is not possible to determine Simazine's carcinogenic status.

**Organ toxicity:** Damage to the testes, kidneys, liver, and thyroid has been observed in test animals.

**Fate in humans and animals:** Studies in rats, goats, and sheep reveal that 60 to 70% of the ingested dose may be absorbed into the system, with approximately 5 to 10% distributed systemically to tissues. The remainder is eliminated via urine within 24 hours. It has been reported that Simazine residues were present in the urine of sheep for up to 12 days after administration of a single oral dose. The maximum concentration in the urine occurred from 2 to 6 days after administration.

## Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Simazine	Conc>=1%: Xn; R40
<ul style="list-style-type: none"><li>• Carcinogenicity - category 2</li><li>• Hazardous to the aquatic environment (acute) - category 1</li><li>• Hazardous to the aquatic environment (chronic) - category 1</li></ul>	

## Potential Health Effects

### Inhalation:

**Short Term Exposure:** Product may be mildly irritating, but unlikely to cause anything more than 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. However product may be mildly irritating, but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.

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

### Eye Contact:

**Short Term Exposure:** This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

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**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. 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:** Simazine is classified by SWA as a Class 3 Carcinogen, possibly carcinogenic to humans.

See the SWA website for further details. A web address has not been provided as addresses frequently change.

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

**IARC:** Simazine is Class 3 - unclassifiable as to carcinogenicity to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

### **Section 12 - Ecological Information**

Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is unlikely to be mobile in soils.

**Effects on birds:** Simazine is practically nontoxic to birds. The reported LD<sub>50</sub> values in mallard and Japanese quail are >4600 mg/kg and 1785 mg/kg, respectively. Similar high values are reported for other species.

**Effects on aquatic organisms:** Simazine is very toxic to aquatic organisms.

**Effects on other organisms:** While many mammals may be insensitive to Simazine, sheep and cattle are especially sensitive. Simazine is nontoxic to bees. A soil LC<sub>50</sub> in earthworms of >1000 mg/kg has been reported.

#### **Environmental Fate:**

**Breakdown in soil and groundwater:** Simazine is moderately persistent with an average field half-life of 60 days.

Soil half-lives of 28-149 days have been reported. Residual activity may remain for a year after application (2 to 4 kg/ha) in high pH soils. Simazine is moderately to poorly bound to soils. It does, however, adsorb to clays and mucks. Its low water solubility, however, makes it less mobile, limiting its leaching potential.

**Breakdown in water:** The average half-life of Simazine in ponds where it has been applied is 30 days, with the actual half-life dependent on the level of algae present, the degree of weed infestation, and other factors. Simazine may undergo hydrolysis at lower pH. It does not readily undergo hydrolysis in water at pH = 7.

**Breakdown in vegetation:** Plants absorb Simazine mainly through the roots, with little or no foliar penetration. From the roots, it is translocated upward to the stems, leaves, and growing shoots of the plant. It acts to inhibit photosynthesis. Resistant plants readily metabolize Simazine. Plants that are sensitive to Simazine accumulate it unchanged. It is possible that livestock or wildlife grazing on these plants could be poisoned.

### **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.

### **Section 16 - Other Information**

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

#### **Acronyms:**

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters

### **SAFETY DATA SHEET**



<b>IARC</b>	International Agency for Research on Cancer
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>UN Number</b>	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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## SAFETY DATA SHEET