

SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Sinon Australia Pty Ltd
327 High St
Golden Square, Vic 3555

Phone: 03 5441 8907
Fax: 03 4408 4664
info@sinon.com.au

Chemical nature: Imidacloprid is a pyridine derived insecticide.
Trade Name: **Sindor 200 SC Insecticide**
APVMA code: 67781
Product Use: Agricultural insecticide for use as described on the product label.
Creation Date: **April, 2013**
This version issued: **October, 2015** and is valid for 5 years from this date.

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 subject to the ADG Code when transported in Australia by Road or Rail (refer to SP AU01). However if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG respectively. See details below and in Section 14 of this MSDS..

Risk Phrases: R22, R43. Harmful if swallowed. May cause sensitisation by skin contact.

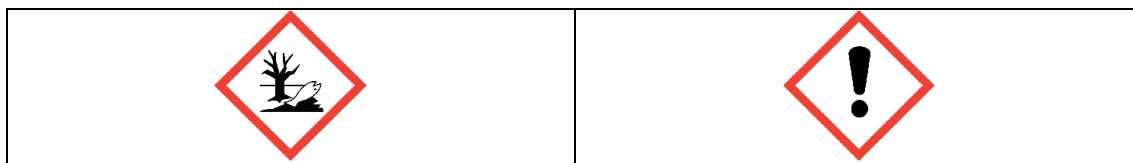
Safety Phrases: S20, S28, S37, S24/25. When using, do not eat or drink. After contact with skin, wash immediately with plenty of soap and water. Wear suitable gloves. Avoid contact with skin and eyes.

Contains 1,2-benzisothiazol-3(2H)-one which may cause an allergic reaction.

SUSMP Classification: S5

ADG Classification: Class 9: Miscellaneous Dangerous Goods.

UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**GHS Signal word: DANGER.****HAZARD STATEMENT:**

- H302: Harmful if swallowed.
- H317: May cause an allergic skin reaction.
- H410: Very toxic to aquatic life with long lasting effects.

PREVENTION

- P261: Avoid breathing fumes, mists, vapours or spray.
- P264: Wash contacted areas thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

- P330: Rinse mouth.
- P337: If eye irritation persists: seek medical attention.
- P353: Rinse skin or shower with water.
- P363: Wash contaminated clothing before reuse.
- P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P333+P313: If skin irritation or rash occurs: Get medical advice.
- P391: Collect spillage.
- P370+P378: In case of fire, note the following. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.

STORAGE

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

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DISPOSAL

P501: Dispose of contents and containers to landfill.

Emergency Overview**Physical Description & Colour:** White to slightly beige liquid suspension.**Odour:** No significant odour.**Major Health Hazards:** harmful if swallowed, possible skin sensitiser.**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:** Classified as a potential sensitiser by skin contact. Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe. In addition 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.**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 is believed to be mildly irritating to mucous membranes but is unlikely to cause anything more than mild 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 ³)	STEL (mg/m ³)
Imidacloprid	138261-41-3	200g/L	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:** 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.**SAFETY DATA SHEET**

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.

Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness.

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. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. 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 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 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. 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**.

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 Imidacloprid is set at 0.06mg/kg/day. The corresponding NOEL is set at 6mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 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.

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Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

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

Skin Protection: If you believe you may have a sensitisation to this product or any of its declared ingredients, you should prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

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

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

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Physical Description & colour:	White to slightly beige liquid suspension.
Odour:	No significant odour.
Boiling Point:	Expected to be approximately 100°C at 100kPa.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	No data.
Specific Gravity:	1.12 at 20°C
Water Solubility:	Completely soluble in water.
pH:	7.3 at 25°C (undiluted); 7.0 at 25°C (1% solution in water)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	0.57 at 20°C (Imidacloprid) (log P octanol/water)
Viscosity:	11100 mPa.s at 20°C, 15900 mPa.s at 40°C
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: 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.

Fire Decomposition: Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness. 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. Hydrogen chloride gas, other compounds of chlorine. 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

For Imidacloprid:

LD₅₀, oral, rat: 1113 mg/kg

LD₅₀, dermal, rat: > 2000 mg/kg

LC₅₀, inhalation, rat (male): 3.55 mg/L/4 h

LC₅₀, inhalation, rat (female): > 3.73 mg/L/4 h

CHRONIC TOXICITY for Imidacloprid

A 2-year feeding study in rats fed up to 1,800 ppm resulted in a No Observable Effect Level (NOEL) of 100 ppm (5.7 mg/kg body weight in males and 7.6 mg/kg in females). Adverse effects included decreased body weight gain in females at 300 ppm, and increased thyroid lesions in males at 300 ppm and females at 900 ppm. A 1-year feeding study in dogs fed up to 2,500 ppm resulted in a NOEL of 1,250 ppm (41 mg/kg). Adverse effects included increased cholesterol levels in the blood, and some stress to the liver (measured by elevated liver cytochrome p-450 levels).

Reproductive Effects

A three generation reproduction study in rats fed up to 700 ppm imidacloprid resulted in a NOEL of 100 ppm (equivalent to 8 mg/kg/day) based on decreased pup body weight observed at the 250 ppm dose level.

Teratogenic Effects

A developmental toxicity study in rats given doses up to 100 mg/kg/day by gavage on days 6 to 16 of gestation resulted in a NOEL of 30 mg/kg/day (based on skeletal abnormalities observed at the next highest dose tested of 100

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mg/kg/day). In a developmental toxicity study with rabbits given doses of imidacloprid by gavage during days 6 through 19 of gestation, resulted in a NOEL of 24 mg/kg/day based on decreased body weight and skeletal abnormalities observed at 72 mg/kg/day (highest dose tested).

Mutagenic Effects

Imidacloprid may be weakly mutagenic. In a battery of 23 laboratory mutagenicity assays, imidacloprid tested negative for mutagenic effects in all but two of the assays. It did test positive for causing changes in chromosomes in human lymphocytes, as well as testing positive for genotoxicity in Chinese hamster ovary cells.

Carcinogenic Effects

Imidacloprid is considered to be of minimal carcinogenic risk, and is thus categorized by EPA as a "Group E" carcinogen (evidence of noncarcinogenicity for humans). There were no carcinogenic effects in a 2-year carcinogenicity study in rats fed up to 1,800 ppm imidacloprid.

Organ Toxicity

In short-term feeding studies in rats, there were thyroid lesions associated with very high doses of imidacloprid.

Fate in Humans and Animals

Imidacloprid is quickly and almost completely absorbed from the gastrointestinal tract, and eliminated via urine and faeces (70-80% and 20-30%, respectively, of the 96% of the parent compound administered within 48 hours). The most important metabolic steps include the degradation to 6-chloronicotinic acid, a compound that acts on the nervous system as described above. This compound may be conjugated with glycine and eliminated, or reduced to guanidine.

Ingredient

Risk Phrases

No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.

SECTION 12 - ECOLOGICAL INFORMATION

This product is not readily biodegradable. It will however slowly degrade in the soil or water.

Effects on Birds

Imidacloprid is toxic to upland game birds. The LD₅₀ is 152 mg/kg for bobwhite quail, and 31 mg/kg in Japanese quail. In studies with red-winged blackbirds and brown-headed cowbirds, it was observed that birds learned to avoid imidacloprid treated seeds after experiencing transitory gastrointestinal distress (retching) and ataxia (loss of coordination). It was concluded that the risk of dietary exposure to birds via treated seeds was minimal. Based on these studies, imidacloprid appears to have potential as a bird repellent seed treatment.

Effects on Aquatic Organisms

The toxicity of imidacloprid to fish is moderately low. The 96-hour LC₅₀ of imidacloprid is 211 mg/l for rainbow trout, 280 mg/L for carp, and 237 mg/L for golden orfe. In tests with the aquatic invertebrate Daphnia, the 48-hour EC₅₀ (effective concentration to cause toxicity in 50% of the test organisms) was 85 mg/L. Products containing imidacloprid may be very toxic to aquatic invertebrates.

Effects on Other Animals (Nontarget species)

Imidacloprid is highly toxic to bees if used as a foliar application, especially during flowering, but is not considered a hazard to bees when used as a seed treatment.

ENVIRONMENTAL FATE

Breakdown of Chemical in Soil and Groundwater

Imidacloprid is not readily biodegradable. It undergoes slow degradation in the environment and in waste water treatment plants. Degradation is mainly microbiological and aerobic, but photo-degradation also occurs. Degradation half-lives in the environment vary much with circumstances, usually from a few months to one year.

Breakdown of Chemical in Surface Water

The half-life in water is much greater than 31 days at pH 5, 7 and 9. No other information was found.

Breakdown of Chemical in Vegetation

Imidacloprid penetrates the plant, and moves from the stem to the tips of the plant. It has been tested in a variety of application and crop types, and is metabolized following the same pathways. The most important steps were loss of the nitro group, hydroxylation at the imidazolidine ring, hydrolysis to 6-chloronicotinic acid and formation of conjugates).

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.

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SECTION 14 - TRANSPORT INFORMATION

Not subject to the ADG Code when transported by Road or Rail in Australia, but classed as Dangerous by IATA and IMDG when carried by Air or Sea transport (see details below).

ADG Code: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Hazchem Code: •3Z

Special Provisions: 179, 274, AU01

Limited quantities: ADG 7 specifies a Limited Quantity value of 5 L for this class of product.

Dangerous Goods Class: Class 9: Miscellaneous Dangerous Goods.

Packaging Group: III

Packaging Method: P001, IBC03, LP01

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

SECTION 15 - REGULATORY INFORMATION

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

The following ingredient: Imidacloprid, is mentioned in the SUSMP.

SECTION 16 - OTHER INFORMATION

This MSDS 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
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 MSDS 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 MSDS 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 MSDS 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

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