

**CAUTION**  
**KEEP OUT OF REACH OF CHILDREN**  
**READ SFETY DIRECTIONS BEFORE OPENING OR USING**

# Sentricon® IG

## TERMITICIDE RTI STATION

**ACTIVE CONSTITUENT:**  
5 g/kg hexaflumuron

**GROUP 15 INSECTICIDE**

For the protection of structures from subterranean termite damage.

**Pack Sizes:** 28 x 150g READY TO INSTALL STATIONS

### READ THIS OUTER CARTON FOR DIRECTIONS OF USE

#### FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre.  
Phone: *Australia* 13 11 26. *New Zealand* 0800 764 766.

**EMERGENCY RESPONSE  
(ALL HOURS)**  
RING FROM ANYWHERE IN  
AUSTRALIA  
**1800 370 754**  
(LOCAL CALL FEE ONLY)

IN A TRANSPORT  
EMERGENCY ONLY  
**DIAL 000**  
FOR POLICE OR  
FIRE BRIGADE

#### SAFETY DATA SHEET

Additional information is listed on the Safety Data Sheet for **SENTRICON® IG TERMITICIDE RTI STATION** which is available from Corteva Agriscience on request. Call Customer Service Toll Free on 1-800 700 096 or visit [www.sentricon.com.au](http://www.sentricon.com.au)



Sentricon® IG Termiticide RTI (ready-to-install) Station is an in-ground station pre-loaded with the termiticide rod, is an insect growth regulator for the control of subterranean termites. To effectively use this product the user needs to have a thorough understanding of subterranean termite biology and behaviour with a particular emphasis on conditions conducive to termite activity. Sentricon® IG Termiticide Rods must remain in place at all times. Monitor in-ground stations regularly as determined by termite species and site conditions.

### DIRECTIONS FOR USE

Situation	Pest	Critical Comments
For use in areas conducive to termite foraging. (Except Tasmania)	Subterranean termites	<b>Pre- and Post-Construction (i.e. for new and existing structures):</b> Place a Sentricon® IG RTI station as per the <b>Sentricon® Technical Manual</b> . Replace Sentricon® IG Termiticide rod when more than half has been consumed. For more details refer to the GENERAL DIRECTIONS.

**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.**

### GENERAL DIRECTIONS

Sentricon® IG Termiticide RTI Station must remain in place at all times. Monitor in-ground stations regularly as determined by termite species and site conditions. **Before use it is essential to read the current Sentricon® Technical Manual** available from a Corteva Agriscience Customer Service Representative at 1800 700 096 or at our website [www.sentricon.com.au](http://www.sentricon.com.au)

### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

This product is very highly toxic to aquatic invertebrates. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

### STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well ventilated area, out of direct sunlight. Used Sentricon® RTI stations may be disposed of at a waste management facility. Do not burn empty containers or product.

### SPILLS

Sweep up material and contain in refuse vessel for disposal. Prevent entry of spilled material into drains or waterways. Bury swept up material at a local authority landfill that does not burn its refuse. In some States, wastes can only be buried at a licensed landfill.

APVMA Approval No: 80120/103514

**Corteva Agriscience Australia Limited\*** A.B.N. 24 003 771 659  
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[www.sentricon.com.au](http://www.sentricon.com.au)

**CUSTOMER SERVICE TOLL FREE**

**1-800 700 096**

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Barcode for stock identification
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**Product name: SENTRICON® IG Termite Bait****Issue Date: 6.01.2021**

CORTEVA AGRISCIENCE AUSTRALIA PTY LTD encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container.

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**SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY**

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**Product name: Sentricon® IG Termite Bait****Recommended use of the chemical and restrictions on use****Identified uses:** End use insecticide product**COMPANY IDENTIFICATION**

CORTEVA AGRISCIENCE AUSTRALIA PTY LTD  
LEVEL 9, 67 ALBERT AVENUE  
CHATSWOOD NSW 2067  
AUSTRALIA

**Customer Information Number:**

1800-700-096

austomerservice@corteva.com

**EMERGENCY TELEPHONE NUMBER****24-Hour Emergency Contact:** +61 2 9474 7350**Local Emergency Contact:** 1800-370-754**For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126****Transport Emergency Only Dial 000**

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**SECTION 2: HAZARD(S) IDENTIFICATION**

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**GHS Classification**

Acute aquatic toxicity - Category 1

Chronic aquatic toxicity - Category 1

**GHS label elements****Hazard pictograms**Signal word: **WARNING!**

**Hazard statements**

Very toxic to aquatic life with long lasting effects.

**Precautionary statements****Prevention**

Avoid release to the environment.

**Response**

Collect spillage.

**Disposal**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

No data available

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**SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8**

Component	CASRN	Concentration
Hexaflumuron	86479-06-3	0.5%
Cellulose	9004-34-6	> 90.0 - < 100.0 %
Balance	N/A	≤ 0.5 %

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**SECTION 4: FIRST AID MEASURES**
**Description of first aid measures**

**General advice:** If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Eye contact:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**Ingestion:** No emergency medical treatment necessary.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## SECTION 5: FIREFIGHTING MEASURES

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**Hazchem code:** 2X

**Suitable extinguishing media:** Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

**Unsuitable extinguishing media:** No data available

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Combustion products may include trace amounts of: Nitrogen oxides. Hydrogen fluoride. Hydrogen chloride.

**Unusual Fire and Explosion Hazards:** None known.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Use appropriate safety equipment. For additional information, refer to Section 8: Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12: Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Corteva Agriscience for clean-up assistance. See Section 13: Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Hexaflumuron	Dow IHG	TWA	0.05 mg/m <sup>3</sup>
Cellulose	ACGIH	TWA	10 mg/m <sup>3</sup>
	AU OEL	TWA	10 mg/m <sup>3</sup>

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

### Skin protection

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove is recommended to prevent contact with the solid material.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Wear clean, body-covering clothing.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator.

The following should be effective types of air-purifying respirators: Organic vapour cartridge with a particulate pre-filter.

**Other Information:** Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Recommended practices for occupational eye protection.

AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.

AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.

AS/NZS 2161: Occupational protective gloves.

AS/NZS 2210: Occupational protective footwear.

AS/NZS 4501: Occupational protective clothing Set

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

<b>Physical state</b>	Solid.
<b>Colour</b>	White
<b>Odour</b>	Odourless
<b>Odour Threshold</b>	No data available
<b>pH</b>	No test data available
<b>Melting point/range</b>	No test data available
<b>Freezing point</b>	No test data available
<b>Boiling point (760 mmHg)</b>	No test data available
<b>Flash point – closed cup</b>	No test data available
<b>Evaporation Rate (Butyl Acetate = 1)</b>	No test data available
<b>Flammability (solid, gas)</b>	No data available
<b>Lower explosion limit</b>	No test data available
<b>Upper explosion limit</b>	No test data available
<b>Vapour Pressure</b>	No test data available
<b>Relative Vapour Density (air = 1)</b>	No test data available
<b>Relative Density (water = 1)</b>	No test data available
<b>Water solubility</b>	No test data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No test data available
<b>Decomposition temperature</b>	No test data available
<b>Kinematic Viscosity</b>	No test data available
<b>Explosive properties</b>	No
<b>Oxidizing properties</b>	No
<b>Molecular weight</b>	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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**SECTION 10: STABILITY AND REACTIVITY**

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**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Stable under recommended storage conditions. See Storage, Section 7.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Active ingredient decomposes at elevated temperatures.

**Incompatible materials:** Avoid contact with oxidizing materials. Avoid contact with: Strong bases.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include trace amounts of: Hydrogen chloride. Hydrogen fluoride. Nitrogen oxides.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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**Acute toxicity****Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s): LD50, Rat > 5,000 mg/kg. Estimated.

**Acute dermal toxicity**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s): LD50, Rat > 2,000 mg/kg. Estimated

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

As product: The LC50 has not been determined.

**Skin corrosion/irritation**

Brief contact is essentially non-irritating to skin.

**Serious eye damage/eye irritation**

Solid or dust may cause irritation or corneal injury due to mechanical action.

**Sensitization**

Based on information for component(s): Did not cause allergic skin reactions when tested on guinea pigs.

For respiratory sensitization: No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Available data are inadequate to determine single exposure specific target organ toxicity.



**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

For the active ingredient: Hexaflumuron. In animals, effects have been reported on the following organs: Blood, Liver, Spleen.

May cause methemoglobinaemia, thereby impairing the blood's ability to transport oxygen.

**Carcinogenicity**

Component(s) did not cause cancer in laboratory animals.

**Teratogenicity**

Component(s) did not cause birth defects or any other foetal effects in laboratory animals.

**Reproductive toxicity**

For the active ingredient: In animal studies, did not interfere with reproduction.

For the major component(s): In animal studies, cellulose has been shown to interfere with fertility and reproduction as a result of nutritional deficiencies associated with extremely high dietary concentrations of cellulose.

**Mutagenicity**

For the active ingredient: Hexaflumuron. *In vitro* genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**COMPONENTS INFLUENCING TOXICOLOGY:****Hexaflumuron****Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

LC50, Rat, male and female, 4 Hour, Dust > 7.0 mg/l

**Cellulose****Acute inhalation toxicity**

The LC50 has not been determined.

**Balance****Acute inhalation toxicity**

The LC50 has not been determined

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**SECTION 12: ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Ecotoxicity****Hexaflumuron****Acute toxicity to fish**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, > 0.5 mg/l

LC50, *Lepomis macrochirus* (Bluegill sunfish), 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 0.000111 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, > 3.2 mg/l

**Toxicity to bacteria**

EC50, activated sludge, 3 Hour, > 100 mg/l, OECD 209 Test

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, 0.000001 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

Oral LD50, Colinus virginianus (Bobwhite quail), > 2000 mg/kg bodyweight.

Material is slightly toxic to birds on a dietary basis (LC50 between 1001 and 5000 ppm).

Dietary LC50, Colinus virginianus (Bobwhite quail), 5 d, 4786mg/kg diet.

Contact LD50, Apis mellifera (bees), 48 Hour, > 100 micrograms/bee

Oral LD50, Apis mellifera (bees), 48 Hour, > 100 micrograms/bee

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 14 d, 880 mg/kg

**Cellulose**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Fish, 96 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Algae, 96 Hour, Growth rate inhibition > 100 mg/l

**Toxicity to bacteria**

LC50, Bacteria > 100 mg/l

**Balance**

**Acute toxicity to fish**

No relevant data found.

**Persistence and degradability**

**Hexaflumuron**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 76 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D or Equivalent

**Theoretical Oxygen Demand:** 4.72 mg/mg

**Stability in Water (1/2-life):** 22 days, pH 7

**Cellulose**

**Biodegradability:** Biodegradation rate may increase in soil and/or water with acclimation.

**Theoretical Oxygen Demand:** 1.18 mg/mg

**Balance**

**Biodegradability:** No relevant data found.

**Bioaccumulative potential**

**Hexaflumuron**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3,000 or Log Pow between 5 and 7).

**Partition coefficient: n-octanol/water (log Pow):** 5.68. Estimated.

**Bioconcentration factor (BCF):** 3,800 - 5,600 Fish. 28 d. Measured

**Cellulose**

**Bioaccumulation:** No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

**Balance**

**Bioaccumulation:** No relevant data found.

**Mobility in Soil**

**Hexaflumuron**

Potential for mobility in soil is slight (Koc between 2,000 and 5,000).

**Partition coefficient (Koc):** 3,096 – 41,170 Estimated.

**Cellulose**

No data available.

**Balance**

No relevant data found.

**Results of PBT and vPvB assessment**

**Hexaflumuron**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Cellulose**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Balance**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Other adverse effects**

**Hexaflumuron**

No relevant data found.

**Cellulose**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Balance**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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**13. DISPOSAL CONSIDERATIONS**


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**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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**14. TRANSPORT INFORMATION**


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**ADG**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(HEXAFLUMURON)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Hexaflumuron

**Classification for SEA transport (IMO-IMDG):**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(HEXAFLUMURON)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Hexaflumuron
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(HEXAFLUMURON)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III

**Hazchem Code:** 2Z

**Further information:**

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Code for the Transport of Dangerous Goods (ADG). This applies when transported by road or rail in packaging's that do not incorporate a receptacle exceeding 500 kg(L) or IBCs per ADG Special Provision AU01.

Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code and IATA special provision A197.

This information is not intended to convey all specific regulatory or operational requirements/ information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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**Poison Schedule:** None allocated  
**APVMA Approval Number:** 57843

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## 16. OTHER INFORMATION

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### Revision

Identification Number: 101213701 / A143 / Issue Date: 6.01.2021 / Replaces: 28.11.2019

DAS Code: GF-1407

Sections amended: 1, 5, 14, 15, 16

### Legend

ACGIH	American Conference of Governmental Industrial Hygienists. Threshold Limit Values (TLV)
AU OEL	Australia. Workplace Exposure Standards for Airborne Contaminants.
Dow IHG	Dow Industrial Hygiene Guideline
TWA	Exposure standard - time weighted average

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECl - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic

substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System.

CORTEVA AGRISCIENCE AUSTRALIA PTY LTD urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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# Sentricon<sup>®</sup> IG

## TERMITICIDE ROD

**ACTIVE CONSTITUENT:**  
5 g/kg hexaflumuron

**GROUP 15 INSECTICIDE**

For the protection of structures from subterranean termite damage.

**Pack Sizes:** 28 x 150g

### READ THIS OUTER CARTON FOR DIRECTIONS OF USE

#### FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre.  
Phone: *Australia* 13 11 26. *New Zealand* 0800 764 766.

**EMERGENCY RESPONSE  
(ALL HOURS)**  
RING FROM ANYWHERE IN  
AUSTRALIA  
**1800 370 754**  
(LOCAL CALL FEE ONLY)

IN A TRANSPORT  
EMERGENCY ONLY  
**DIAL 000**  
FOR POLICE OR  
FIRE BRIGADE

#### SAFETY DATA SHEET

Additional information is listed on the Safety Data Sheet for **SENTRICON<sup>®</sup> IG TERMITICIDE ROD** which is available from Corteva Agriscience on request. Call Customer Service Toll Free on 1-800 700 096 or visit [www.sentricon.com.au](http://www.sentricon.com.au)



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Visit us at [Corteva.com.au](http://Corteva.com.au)

Sentricon® IG Termiticide Rod is an insect growth regulator for the control of subterranean termites. To effectively use this product the user needs to have a thorough understanding of subterranean termite biology and behaviour with a particular emphasis on conditions conducive to termite activity.

### DIRECTIONS FOR USE

DO NOT remove protective wrapper from the rod until ready for use.

Situation	Pest	Critical Comments
For use in Sentricon® in-ground stations that are installed in areas conducive to termite foraging. (Except Tasmania)	Subterranean termites	<b>Pre- and Post-Construction (i.e. for new and existing structures):</b> Place a Sentricon® IG Termiticide rod in every in-ground station at the time of installation. Replace Sentricon® IG Termiticide rods when more than half has been consumed. For more details refer to the GENERAL DIRECTIONS.

**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.**

### GENERAL DIRECTIONS

Sentricon® IG Termiticide Rods must remain in place at all times. Monitor in-ground stations regularly as determined by termite species and site conditions. **Before use it is essential to read the current Sentricon™ Technical Manual** available from a Corteva Agriscience Customer Service Representative at 1800 700 096 or at our website [www.sentricon.com.au](http://www.sentricon.com.au)

### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

This product is very highly toxic to aquatic invertebrates. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

### STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well ventilated area, out of direct sunlight. Used Sentricon® IG Termiticide Rods may be disposed of at a waste management facility. Do not burn empty containers or product.

### SPILLS

Sweep up material and contain in refuse vessel for disposal. Prevent entry of spilled material into drains or waterways. Bury swept up material at a local authority landfill that does not burn its refuse. In some States, wastes can only be buried at a licensed landfill.

APVMA Approval No: 80120/103514

**Corteva Agriscience Australia Limited** A.B.N. 24 003 771 659  
67 Albert Avenue, Chatswood, NSW 2067  
[www.sentricon.com.au](http://www.sentricon.com.au)

**CUSTOMER SERVICE TOLL FREE**

**1-800 700 096**

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Barcode for stock identification
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**Product name:** Sentricon® IG Termiticide Rod

**Issue Date:** 14.09.2021

CORTEVA AGRISCIENCE AUSTRALIA PTY LTD encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container.

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## SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

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**Product name:** Sentricon® IG Termiticide Rod

**Recommended use of the chemical and restrictions on use**

**Identified uses:** End use termiticide product

### COMPANY IDENTIFICATION

CORTEVA AGRISCIENCE AUSTRALIA PTY LTD  
LEVEL 9, 67 ALBERT AVENUE  
CHATSWOOD NSW 2067  
AUSTRALIA

**Customer Information Number:**

1800-700-096

[aucustomerservice@corteva.com](mailto:aucustomerservice@corteva.com)

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** +61 2 9474 7350

**Local Emergency Contact:** 1800-370-754

**For advice, contact a doctor (at once) or the Australian Poisons Information Centre:** 131 126

**Transport Emergency Only Dial** 000

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## SECTION 2: HAZARD(S) IDENTIFICATION

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### GHS Classification

Acute aquatic toxicity - Category 1

Chronic aquatic toxicity - Category 1

### GHS label elements

**Hazard pictograms**



Signal word: **WARNING!**

**Hazard statements**

Very toxic to aquatic life with long lasting effects.

**Precautionary statements****Prevention**

Avoid release to the environment.

**Response**

Collect spillage.

**Disposal**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

No data available

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**SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8**

Component	CASRN	Concentration
Hexaflumuron	86479-06-3	0.5%
Cellulose	9004-34-6	> 60.0 - < 70.0 %
Octadecanoic acid, calcium salt	1592-23-0	< 5.0 %
Balance	N/A	≤ 29.9 %

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**SECTION 4: FIRST AID MEASURES**
**Description of first aid measures**

**General advice:** If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Eye contact:** Flush eyes with plenty of water; remove contact lenses after the first 1-2 minutes then continue flushing for several minutes. Only mechanical effects expected. If effects occur, consult a physician, preferably an ophthalmologist. Get medical attention immediately.

**Ingestion:** No emergency medical treatment necessary.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## SECTION 5: FIREFIGHTING MEASURES

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**Hazchem code:** 2Z

**Suitable extinguishing media:** This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

**Unsuitable extinguishing media:** No data available

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen fluoride. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** None known.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. This material does not burn. Fight fire for other material that is burning.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8: Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12: Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Corteva Agriscience for clean-up assistance. See Section 13: Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Hexaflumuron	Dow IHG	TWA	0.05 mg/m <sup>3</sup>
Cellulose	ACGIH	TWA	10 mg/m <sup>3</sup>
	AU OEL	TWA	10 mg/m <sup>3</sup>
Octadecanoic acid, calcium salt	ACGIH	TWA	10 mg/m <sup>3</sup>
	AU OEL	TWA	10 mg/m <sup>3</sup>

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

### Skin protection

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove is recommended to prevent contact with the solid material.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Wear clean, body-covering clothing.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no

respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator.

The following should be effective types of air-purifying respirators: Organic vapour cartridge with a particulate pre-filter.

**Other Information:** Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Recommended practices for occupational eye protection.

AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.

AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.

AS/NZS 2161: Occupational protective gloves.

AS/NZS 2210: Occupational protective footwear.

AS/NZS 4501: Occupational protective clothing Set

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

<b>Physical state</b>	Solid.
<b>Colour</b>	White
<b>Odour</b>	Mild
<b>Odour Threshold</b>	No data available
<b>pH</b>	6.27 <i>pH Electrode</i>
<b>Melting point/range</b>	No test data available
<b>Freezing point</b>	Not applicable
<b>Boiling point (760 mmHg)</b>	Not applicable
<b>Flash point – closed cup</b>	Not applicable
<b>Evaporation Rate (Butyl Acetate = 1)</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Vapour Pressure</b>	No test data available
<b>Relative Vapour Density (air = 1)</b>	No test data available
<b>Relative Density (water = 1)</b>	No test data available
<b>Water solubility</b>	No test data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	No test data available
<b>Kinematic Viscosity</b>	Not applicable to solids
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	No significant increase (>5C) in temperature.
<b>Bulk Density</b>	0.67 g/cm <sup>3</sup> <i>Loose Volumetric</i> 0.73 g/cm <sup>3</sup> <i>Tapped Volumetric</i>
<b>Molecular weight</b>	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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**SECTION 10: STABILITY AND REACTIVITY**

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**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Thermally stable at recommended temperatures and pressures.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible materials:** Avoid contact with oxidizing materials. Avoid contact with: Strong bases.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Hazardous decomposition products formed under fire conditions. Carbon dioxide. Carbon monoxide. Hydrogen chloride. Hydrogen fluoride.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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**Acute toxicity****Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s): LD50, Rat > 5,000 mg/kg. Estimated.

**Acute dermal toxicity**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s): LD50, Rat > 2,000 mg/kg. Estimated

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

As product: The LC50 has not been determined.

**Skin corrosion/irritation**

Brief contact is essentially non-irritating to skin.

**Serious eye damage/eye irritation**

Solid or dust may cause irritation or corneal injury due to mechanical action.

**Sensitization**

Based on information for component(s): Did not cause allergic skin reactions when tested on guinea pigs.

For respiratory sensitization: No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Available data are inadequate to determine single exposure specific target organ toxicity.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

For the active ingredient: Hexaflumuron. In animals, effects have been reported on the following organs: Blood, Liver, Spleen.

May cause methemoglobinaemia, thereby impairing the blood's ability to transport oxygen.

**Carcinogenicity**

Component(s) did not cause cancer in laboratory animals.

**Teratogenicity**

Component(s) did not cause birth defects or any other foetal effects in laboratory animals.

**Reproductive toxicity**

For the active ingredient: In animal studies, did not interfere with reproduction.

For the major component(s): In animal studies, cellulose has been shown to interfere with fertility and reproduction as a result of nutritional deficiencies associated with extremely high dietary concentrations of cellulose.

**Mutagenicity**

For the active ingredient: Hexaflumuron. In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Hexaflumuron**

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

LC50, Rat, male and female, 4 Hour, Dust > 7.0 mg/l

**Cellulose**

**Acute inhalation toxicity**

The LC50 has not been determined.

**Octadecanoic acid, calcium salt**

**Acute inhalation toxicity**

Dust may cause irritation to upper respiratory tract (nose and throat).

The LC50 has not been determined.

**Balance**

**Acute inhalation toxicity**

The LC50 has not been determined

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**SECTION 12: ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Ecotoxicity****Hexaflumuron****Acute toxicity to fish**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, > 0.5 mg/l

LC50, *Lepomis macrochirus* (Bluegill sunfish), 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 48 Hour, 0.000111 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, *Pseudokirchneriella subcapitata* (green algae), 96 Hour, > 3.2 mg/l

**Toxicity to bacteria**

EC50, activated sludge, 3 Hour, > 100 mg/l, OECD 209 Test

**Chronic toxicity to aquatic invertebrates**

NOEC, *Daphnia magna* (Water flea), 21 d, 0.000001 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

Oral LD50, *Colinus virginianus* (Bobwhite quail), > 2000 mg/kg bodyweight.

Material is slightly toxic to birds on a dietary basis (LC50 between 1001 and 5000 ppm).

Dietary LC50, *Colinus virginianus* (Bobwhite quail), 5 d, 4786 mg/kg diet.

Contact LD50, *Apis mellifera* (bees), 48 Hour, > 100 micrograms/bee

Oral LD50, *Apis mellifera* (bees), 48 Hour, > 100 micrograms/bee

**Toxicity to soil-dwelling organisms**

LC50, *Eisenia fetida* (earthworms), 14 d, 880 mg/kg

**Cellulose****Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Fish, 96 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Algae, 96 Hour, Growth rate inhibition > 100 mg/l

**Toxicity to bacteria**

LC50, Bacteria > 100 mg/l

**Octadecanoic acid, calcium salt****Acute toxicity to fish**

The LC50 value is above the water solubility.

The EC50 value is above the water solubility.



LC50, *Oryzias latipes* (Japanese medaka), 96 Hour, estimated > 100 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 48 Hour, estimated > 100 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

EyC50, *Pseudokirchneriella subcapitata* (algae), 72 Hour, Cell yield inhibition, estimated > 100 mg/l, OECD Test Guideline 201

ErC50, *Pseudokirchneriella subcapitata* (algae), 72 Hour, Growth rate, estimated > 100 mg/l, OECD Test Guideline 201

**Balance**

**Acute toxicity to fish**

No relevant data found.

**Persistence and degradability**

**Hexaflumuron**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 76 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D or Equivalent

**Theoretical Oxygen Demand:** 4.72 mg/mg

**Stability in Water (1/2-life):** 22 days, pH 7

**Cellulose**

**Biodegradability:** Biodegradation rate may increase in soil and/or water with acclimation.

**Theoretical Oxygen Demand:** 1.18 mg/mg

**Octadecanoic acid, calcium salt**

**Biodegradability:** Material is expected to be readily biodegradable.

**Theoretical Oxygen Demand:** 2.74 mg/mg

**Balance**

**Biodegradability:** No relevant data found.

**Bioaccumulative potential**

**Hexaflumuron**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3,000 or Log Pow between 5 and 7).

**Partition coefficient: n-octanol/water (log Pow):** 5.68. Estimated.

**Bioconcentration factor (BCF):** 3,800 - 5,600 Fish. 28 d. Measured

**Cellulose**

**Bioaccumulation:** No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

**Octadecanoic acid, calcium salt**

**Bioaccumulation:** No data available for this product.

**Balance**

**Bioaccumulation:** No relevant data found.

**Mobility in Soil**

**Hexaflumuron**

Potential for mobility in soil is slight (Koc between 2,000 and 5,000).

**Partition coefficient (Koc):** 3,096 – 41,170 Estimated.

**Cellulose**

No data available.

**Octadecanoic acid, calcium salt**

No data available.

**Balance**

No relevant data found.

**Results of PBT and vPvB assessment**

**Hexaflumuron**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Cellulose**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Octadecanoic acid, calcium salt**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Balance**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Other adverse effects**

**Hexaflumuron**

No relevant data found.

**Cellulose**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Octadecanoic acid, calcium salt**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Balance**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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## **13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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## 14. TRANSPORT INFORMATION

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### ADG

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (HEXAFLUMURON)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Hexaflumuron

### Classification for SEA transport (IMO-IMDG):

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (HEXAFLUMURON)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Hexaflumuron
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

### Classification for AIR transport (IATA/ICAO):

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (HEXAFLUMURON)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III

**Hazchem code:** 2Z

### Further information:

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Code for the Transport of Dangerous Goods (ADG). This applies when transported by road or rail in packaging's that do not incorporate a receptacle exceeding 500 kg(L) or IBCs per ADG Special Provision AU01.

Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code and IATA special provision A197.

This information is not intended to convey all specific regulatory or operational requirements/ information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting

organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## 15. REGULATORY INFORMATION

**Poison Schedule:** None allocated  
**APVMA Approval Number:** 80120

## 16. OTHER INFORMATION

### Revision

Identification Number: 101271436 / A143 / Issue Date: 14.09.2021 / Replaces: 6.01.2021

DAS Code: GF-2060

Sections amended: 5, 14

### Legend

ACGIH	American Conference of Governmental Industrial Hygienists. Threshold Limit Values (TLV)
AU OEL	Australia. Workplace Exposure Standards for Airborne Contaminants.
Dow IHG	Dow Industrial Hygiene Guideline
TWA	Exposure standard - time weighted average

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System.

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# Sentri<sup>®</sup>con

## TERMITICIDE

### 2022 Technical Manual



SentriCon AG Bait station and SentriCon AlwaysActive Technical Manual.

For the control of subterranean termites and the protection of structures from subterranean termite damage, in construction and post-construction.

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# The Sentricon System

## Death to the Queen

THE TERMITE QUEEN IS CAPABLE OF PRODUCING A MILLION OR MORE OFFSPRING IN HER LIFETIME.

*Termites cost Australian homeowners more than \$100 million every year, with an average of one in five mainland homes being attacked. They cause more damage than fire, floods and storms combined, and the damage is generally not covered by insurance. Eliminating termites is essential.*

The most important attribute of hexaflumuron, the active ingredient in Sentricon, is that it eliminates the termite colony. This means that the source of the problem, or the threat to a structure is removed.

Hexaflumuron is a chitin synthesis inhibitor which prevents termites from moulting. If a termite is unable to moult when nature intends, the termite dies. When worker termites feed on Sentricon they pass the active ingredient to other members of their colony through a behaviour called trophallaxis. Trophallaxis is the transfer of chemical messages and nutrients between termites. It also serves as the pathway by which hexaflumuron is shared throughout the worker termite community. Colony elimination results when the worker population has attempted to moult after being exposed to hexaflumuron and dies. Loss of workers in the colony means that the rest of the colony starves, as it is the workers' responsibility to feed the colony. Other termite products may repel termites or kill individuals, but they do not address the source of the problem.

### Sentricon System

The Sentricon System consists of Above-Ground (AG) and In-Ground (AlwaysActive) stations. Sentricon AG stations are loaded with a hexaflumuron bait matrix contained in either a soft cover or hard cover housing. They are installed where termites are known to be active. This may be within a structure, on a tree stump, on a fence, etc.

Sentricon AlwaysActive are In-Ground stations pre-loaded with hexaflumuron rods ready for installation around a structure. They may be used in construction and/or post construction, as a preventative or treatment measure.

With two approaches, utilising the same active ingredient, the Sentricon System ensures colony elimination.



# Effectiveness

*Your reputation is critical to your ongoing success. Therefore using a termite treatment that provides consistent results, that you can trust to eliminate termite colonies, is essential.*

The Sentricon system has a research base unparalleled by any other termite management technology. Extensive field tests completed by the U.S. Department of Agriculture's Forest Service, and research conducted by 30 universities and external research contractors, including Australia's CSIRO, have resulted in the publication of more than 70 scientific articles. This independently produced data provides evidence of Sentricon systems ability to eliminate termite colonies. A bibliography of many of these publications is available on the Sentricon website ([www.sentricon.com.au](http://www.sentricon.com.au)). Pre-eminent termite researcher Dr Nan-Yao Su, Distinguished Professor of Urban Entomology at the University of Florida :

2-YEAR STUDY.  
20 TERMITE-INFESTED STATES.  
DOZENS OF HOMES.

**ZERO  
TERMITE  
DAMAGE.**

SENTRICON® NAILED IT.

*Numerous studies have demonstrated the elimination of all detectable Subterranean termite activity by hexaflumuron or noviflumuron baits at a variety of locations with many termite species, "to the point where citations to the published literature are superfluous" (Grace and Su, 2001).*

## Australian Studies

Australian efficacy data reported that hexaflumuron eradicated colonies of termites (Lenz et al. 1996) and in those cases where elimination did not occur, there was an absence of the queen, eggs and larvae, while total termite numbers were much reduced. As the colony relies on the queen and brood for its continued existence, and in the absence of these critical termite life stages, the colony will self-destruct in these situations. Lenz et al., 1996 reported that hexaflumuron is particularly effective against reproductive forms of termites so the chance of the colony regenerating is very unlikely.

Studies conducted over this period found the average time to first termite hit on Sentricon stations was 58 days (range 1-210) and average time to elimination was 97 days (range 20-260). More recent studies using the current AG Bait matrix and AlwaysActive stations found similar results. In one study, six remedial (active) sites assessed in Australia by commercial pest control companies in the field found an average time to be hit (attacked) by termites was 2.5 months. In four of the six sites, termites hit the Sentricon stations at the first inspection.

## Speed of Hit

Given that it often takes around until 12 months for termites to cause economic damage to a structure, achieving colony elimination within a few months is highly desirable. Sentricon AlwaysActive has termiticide rods in the stations from the moment of installation, so termites may be eliminated even before they are detected.

Studies comparing Sentricon to other termiticides which are faster acting have found that this can be counter-productive. Some active ingredients rely on termites foraging through treated areas and transferring the active ingredient to other colony members (known as horizontal transfer). When dose dependent, termites that are exposed to higher doses often die within the treatment area. Exposure to dead termites repels other termites from entering the exposure zone, effectively acting like a repellent termiticide.

Colony elimination may still occur with these active ingredients, but only where the foraging distance is short (< 5 metres) and the exposure dosage is at low lethal levels. Achieving this in practice is very difficult; the likely result is that the colony would segment and re-establish elsewhere (Su, 2005). Over time degradation of these liquid chemical treatments in the soil also reduces their effectiveness.

## Comparative Studies

Ripa et al. (2007) conducted an area-wide study in five sites in Chile. Each site was at least 100 metres apart from the next site to avoid treatment interference. Fipronil, cypermethrin and Sentricon (hexaflumuron) were evaluated bi-weekly or monthly for ~2.5 years. Results showed that only the Sentricon system had a measurable effect on termite activity beyond several metres (at least a 15 -metre radius) from the structures. The sites treated with the Sentricon system had a significant decrease in percentage of active stations, termite numbers and wood consumption rates for the first 6 months after treatment and feeding activity at the monitoring sites surrounding the

Sentricon treatment area declined to zero and did not recover. No structures were re-infested and there were no post-treatment termite swarms for the structures treated with Sentricon. On the contrary, no significant change in termite activity was observed for wood consumption and percentage of active stations for the other treatments (Ripa et al. 2007). The effects of cypermethrin were restricted to the immediate areas where it was applied. For the fipronil sites, the number of active monitoring stations only declined within 2 metres of the treated zone.

## Whole System

Many studies show exceptional success when combining the power of Sentricon AG Bait stations and Sentricon AlwaysActive stations. With one active ingredient there is no antagonism between products; the above ground and in-ground baits are complementary. Having AlwaysActive stations installed as a perimeter whilst eradicating internal infestations with AG Bait stations allows a multi-pronged response to termite movements.

## Consumption

The amount of termiticide (bait matrix in AG stations and rods in AlwaysActive stations) required for any particular site is highly specific. It will be largely determined by the termite species present (how voracious they are) and the time of the year (termites are more active in warmer months). The location, soil type, proximity of the structure to the nest, number of colonies at the site, access to other food sources and so on, also play a part. Every site is unique and careful monitoring of each site is essential in ensuring that you have enough termiticide available to ensure colony elimination.

## The More the Merrier

Label requirements stipulate that Sentricon AlwaysActive stations should be installed at intervals of 3 metres around a structure. Where this is physically impossible, as close to this distance is required and this restriction should be noted on any documentation provided to the owner.

In addition, targeted station placement has been found to increase the speed to hit. Targeted placement means that in addition to a full perimeter system with stations every 3 metres, additional stations are placed in termite conducive areas. Research has shown that adding auxiliary stations within 30 cm of a 'hit' station can increase termiticide feeding and thereby decrease the time to elimination:

*"Use of auxiliary stations improved our ability to maintain termite foraging in active stations over time by 36% and increased overall consumption of bait matrix by 41%" (Paysen et al. 2004).*

The same is true with AG Bait stations. Any additional station placed where termite activity is evident will increase the likelihood of a hit.

Outdoors, termites are often found in wood-based mulch, tree stumps and wood debris. The outside foundation in closest proximity to indoor termite activity or damaged wood should also constitute a targeted placement site.

Every monitoring visit is another opportunity to look for these conducive sites and add additional stations.

## Vigilance Is Key

We know it is common for two or more colonies of termites to be present around a structure.

*"Termite pressure was initially heavy, with up to five colonies present around a single building simultaneously" (Vargo 2003).*

We also know that even if a termite colony has been eliminated, they will leave behind galleries making it easier for a new termite colony to invade the empty nest. This can happen extremely quickly:

*"This study clearly documents that only a relatively short time (days before elimination) is needed for one colony to begin reoccupying a vacated territory and continue feeding on the same food sources" (Messenger et al. 2005).*



IT'S COMMON FOR

2+ COLONIES

TO BE AROUND A HOME AT ONCE.

Eliminating the known termite colony is not enough; keeping the structure protected from future attacks is also required.

## Durability

Sentricon AlwaysActive rods are extremely durable.

*Eger et al. (2014) found Sentricon AlwaysActive rods "would be durable for at least 5 years and possibly longer under most environmental conditions."*

Trials in the USA have found AlwaysActive rods still effective after 11 years. Observations have shown degradation from the outside moving inward which is primarily degradation of the cellulose material. The active ingredient (AI) remained effective.

In Australia, we recommend a full review of the system every five years, to ensure the stations and rods are in good order, and that there haven't been any changes to the environment that would necessitate changes to the system.

Rods do need to be replaced when more than half has been consumed, or if they break. Beyond this, the more aged they become, the more desirable they are to termites.

*In fact, the study by Eger et al (2014) determined that "termites usually consumed more aged durable bait than fresh durable bait and the differences were frequently significant".*

Even when rods have been waterlogged for extended periods, research has found them to remain both desirable and efficacious.

# Safety

## For Pest Managers

Sentricon AG Bait and AlwaysActive has no signal heading. Hexaflumuron is not a scheduled poison. The SDS has no safety phrases allocated. No specific personal protective equipment is required when installing or monitoring Sentricon. Gloves are recommended only to prevent transfer of human scents onto the system. The Sentricon baits are odourless. It does not require any specific measures for storage, transport or handling.

## For Homeowners

Both Sentricon AG Bait and AlwaysActive rods are fully encased within their housing once installed, so risk of exposure is negligible. It has negligible acute and long-term toxicity to humans, with no irritation or sensitisation potential. It has a very low vapour pressure, so it produces no odour.

Should a station be tampered with or become damaged after installation, there is minimal risk of any adverse effect to the homeowner or their family, or pets.

*"The owner is very health conscious. They didn't want any dusts or foams used in their home. The health of their family and pets was a key*

*contributor to wanting an alternative to chemicals, so we raised the option of the Sentricon system. We installed three AG stations inside the house and 22 external AlwaysActive stations, with a mix of inground and cored stations. It probably took 2 months to get full control and we haven't had any activity since." - Termite Doctors*

## For the Environment

Sentricon baits are so specific, non-moulting insects or animals are not affected by it. Sentricon is practically non-toxic to mammals, birds, earthworms, bees and other non-moulting insects. Sentricon is very highly toxic to aquatic invertebrates. DO NOT contaminate streams, rivers or waterways with the chemical or used containers. That said, the risk to the aquatic environment is mitigated as Sentricon is fully encased in stations which are secured in place, so the risk of exposure is negligible.

Sentricon AlwaysActive termiticide rods are so dense and durable, even in severe weather situations, when exposed to ongoing periods of wetting, the rods do not leach, ensuring the termiticide stays where it should, protecting the home from termites and not contaminating the environment. It took 17 years of research and development to construct a matrix that was so durable to the elements.

The active ingredient in Sentricon, hexaflumuron, is readily biodegradable and has a low potential to move through soil. Bioconcentration potential is high, but the risk of this occurring is low, based on the bait's physical attributes, use and exposure.

*"There are quite a few sensitive locations throughout our service area where the use of chemicals is just not an option. Sentricon AlwaysActive is perfect in those areas... We certainly prefer Sentricon AlwaysActive around properties due to the sandy soil in our area." - Coastal Pest Solutions*



For all of these reasons, Sentricon was awarded the 2000 Presidential Green Chemistry Award for designing Greener chemicals.



A U.S. EPA Program

## Reduced Risk Pesticides

Sentricon minimizes environmental exposure by design. It was the first product registered under the Reduced Risk Pesticide Initiative of the U.S. Environmental Protection Agency as it has demonstrated:

- Low impact on human health.
- Lower toxicity to non-target organisms.
- Low potential for groundwater contamination.
- Low use rate.
- Low pest resistance potential.
- Compatibility with integrated pest management practices.

## Value

The Sentricon system offers peace-of-mind unparalleled by any other termite management system. Sentricon offers:

- Colony elimination;
- Single active ingredient system comprising internal and external stations;
- More than 70 independently produced studies attesting to the efficacy of Sentricon;
- Ongoing client contact through regular monitoring;
- AlwaysActive rods with exceptional durability ensures great value to your Client;
- Flexibility in monitoring frequency with AlwaysActive;
- Fast and easy installation and monitoring;
- Ability to engage junior staff for installation and monitoring;
- A single system suitable for all situations - pre-construction, postconstruction, active termites, preventative sites, sensitive zones, all soil types, etc.

Upfront costs need to be looked at with all of these features in mind. Most pest managers who switch to Sentricon find that they have more flexibility with their labour scheduling, are able to achieve greater profit and have greater peace-of-mind, knowing the reputation to their business is safe.

*"Sentricon AlwaysActive has given us a lot more repeat business, with the monthly inspections. We've noticed a difference with our workload. This year we won't have any downtime. We've taken on a lot more work."*

*"Our profitability has definitely increased. We have more turnover. I find we can quote higher on jobs, once we explain how Sentricon AlwaysActive works. We haven't had a knock-back on a full external system yet." - Riverside Pest Management*

*"Having AlwaysActive means I can have more clients. It also gives me more flexibility.... It's been a real benefit to how I manage my business, and balance that with my family." - The Termite Trackers.*

### Training

Online training is available anytime, free-of-charge on our website ([www.sentricon.com.au](http://www.sentricon.com.au)).

Successful completion of our technical training is a requirement for all pre-construction installations; and it is highly recommended for all pest control managers. Face-to-face training is also available on request as required.

On the Sentricon website you will find a range of educational brochures, literature, tips, testimonials and frequently asked questions (FAQs). Representatives from our team attend all relevant roadshows, conferences and events. Make sure you make a point to come and meet us, so we can better understand your business and how we can serve you.



Photo 1: Partially consumed termiticide rod which needs replacing.

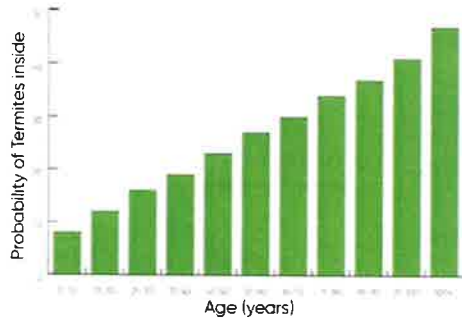


Photo 2: Partially consumed bait.

# Termites in Australia

In 1996-98 CSIRO scientists Cookson and Trajstman organised a survey of 5,122 homes in Australia to determine the incidence of termites and whether there were any contributing factors to termite infestation. Key findings were:

- South Australia had the highest incidence of termites within the home (21%), followed by Queensland (20.9%) and NSW (18.3%).
- Northern Territory had the highest incidence of termites found 'somewhere' (66.7%), followed by Western Australia (53%) and Queensland (45.1%).
- Termites were most likely to be found in walls (40%, wall frame, stud, cavity), followed by flooring (19%) and stumps (17%).
- Outside, termites were mostly likely found in wood piles/branches (31%), live trees (20%), fences (18%) and dead trees (18%).
- Most (86%) of the time, termites were found on account of damaged timber. Only 22.9% of homeowners reported having termite inspections. House frame type and flooring type did not impact the proportion of termites found within the house; however the age of the structure did. It was found that the "incidence of termites inside increases by about 0.4% / year."



Termites Inside the House Versus Age

Reasons for this increased risk were related to: decay of original termite system, or breaching on account of landscaping or renovation; low floor clearance, therefore poor ventilation and inadequate space for inspections; poor quality ventilators; greater moisture through leakages; aging trees and sleeper garden beds.

This study produced a termite hazard map based on the incidence of termites found both inside and outside the home.



The dominant factor influencing termite activity or hazard is temperature, then rainfall.

Termite hazard tends to be higher in heavily treed areas, however, removing trees will not void the termite hazard and is less of a determinant as differences observed are more likely to be due to the influence of house age. The influence of soil type also appears to be less important, as termites are able to create the conditions they need within a wide variety of substrates. However, factors such as soil type, vegetation, and age of building are likely to combine to determine the location of 'hot spots' within the broader hazard zones as mentioned above.

# Termite biology

*It is important to have a good understanding of termite biology and behaviour to assist with installation and maintenance of the Sentricon System.*

The following external factors can influence termite colony behaviour:

- Availability of food sources (wood/cellulose)
- Moisture
- Climate
- Geography
- Predators

Termites are social insects and their colonies consist of several caste types. Being able to recognise the different caste types can be helpful. The caste types that you may encounter and their respective roles within the colony include:

- Kings and queens initiate the colony and continue producing hundreds to thousands of fertilised eggs per day.
- Soldiers are responsible for protecting the colony. Their defence mechanisms include: mechanical attack via biting with large mandibles, chemical attack by secreting toxic or repellent chemicals, and physical defence by blocking access to galleries with their bodies. The head and mandible shape of soldier termites is important for identification.
- Workers make up the vast majority of the colony's mature population. They are responsible for building the nest, repairing the gallery systems, gathering food and feeding the other caste members. A colony without worker termites will die.
- Neotenics are supplementary or replacement queens. Not all species have this caste present.
- Alates are winged termites released from the colony at a particular time of year to fly off in order to find a mate and start a new colony. In Australia the two main flight periods are late spring and autumn. Nests of the same species have been known to release their alates simultaneously.
- Immature stages include all caste types that are not yet fully grown.

From a behavioural perspective, the worker termites continuously forage randomly for food sources. When termites encounter a moisture zone or physical barrier such as plumbing, they are more likely to forage in and along these areas. When they locate a new food source, a feeding site is established, and other workers are guided there by pheromone trails. Termites can mark sites as a potential food source, but they may not begin feeding on that site until a later date.

## Termite Identification

It is helpful to know the genus of the termite in question and, if possible, the species, because species differ in biology and behaviour. There are many publications that will assist with determining the termite species. In reality you will only need to deal with a handful of different species in any one area, and with a general understanding of the behaviour and appearance of those species you will be able to make accurate identifications.

When uncertain, take a sample of termites to an entomologist, who is an expert in termite identifications. Always carry a sample container and methylated spirits to preserve the specimens for identification.

Soldier or alate (winged) termites are the best caste members to collect; worker termites are generally not used for identification but can be helpful. A minimum of five termites of the same caste should be collected.



# Installation

Sentricon is available in multiple convenient versions:

- Sentricon AG (Above-Ground) Bait station come with either a soft or hard cover housing and a bag of termite bait. Refill bags of termite bait can be purchased separately.
- Sentricon AlwaysActive RTI (Ready-To-Install) station is pre-loaded with a Sentricon IG Rod: recommended for new external installations.
- Sentricon AlwaysActive two-piece IG (In-Ground) station: recommended for use in cored concrete holes. This DOES NOT include a Sentricon IG Termiticide Rod.
- Sentricon AlwaysActive Rod: recommended in situations where a Sentricon station is already installed in the ground or when installing the Sentricon two-piece IG station.

Termites are very sensitive to smell. Always store Sentricon components, both in your vehicle and in the warehouse, away from potential contaminants such as chemicals, fuel, smoke, etc. It is preferable for you to carry Sentricon components inside a sealed plastic container or similar.

## Before Installation

Before installing Sentricon make sure you:

- Carry out a termite inspection of the structure according to Australian Standard 3660.
- Ensure recommendations are made to the owner in writing, to rectify any conditions that may reduce the effectiveness of Sentricon e.g. fixing gutters, downpipes or leaking taps in order to reduce moisture problems from around the foundations; removal of alternative food sources such as tree stumps or decorative railway sleepers from the garden.
- Obtain, where possible, the termite history of the site taking note of where chemicals have been used in the past. Avoid placing Sentricon stations into areas that have been previously treated with chemicals. In these situations place the station as close to the ideal location as possible but outside the chemical zone. Look for signs of previous chemical applications such as loose earth along foundations, filled in drill holes and check the meter box for a treatment certificate.
- Identify any underground utility lines or pipes.
- Thoroughly clean your hands of all residues such as cigarettes and chemicals. These odours can deter termites. Wear disposable latex gloves whenever handling the baits and accessories.

## Sentricon AG Bait Stations

### Placement of Sentricon AG Stations

Sentricon AG Stations can be used just about anywhere termites are located. The success of the AG station is often determined by how well it is positioned relative to where the termites are feeding. Good hit rates have been achieved when placing an AG station over a mud lead.

It is imperative that you use termite locating skills together with commercial tools that are available such as a moisture meter, an infrared camera and movement and sound detection devices to locate exactly where the termites are actively feeding.

Placement of the AG station should be on or just ahead of the feeding front so as to encourage termites out of the cellulose material and into the AG station. When moistened, the bait is pliable and can be pushed

gently into the termite workings acting like a wick to draw them into the AG station. Termites tend to follow wood grain so bear this in mind when placing the station.

## Installation of Sentricon AG Stations

Now that you have located the termites' concealed feeding front it is important to mount the AG station housing and prepare the bait matrix before exposing the termites. Exposing the termites too early will likely cause them to be alarmed and start mudding over the exit hole you have created and thus reducing the likelihood of drawing the termites out of the feeding site and into the AG station. Exposing the termites should be done immediately prior to inserting the bait matrix into the AG station housing.

Your objective when installing an AG station is to create an environment inside the station in which termites would happily feed. This requires completely sealing the station with a sealant like Selleys® No More Gaps so that moisture can't escape, and the termites can maintain the humidity and carbon dioxide levels inside. Sealing the station also helps to hold the station onto the termite active surface, as well as keep out predators such as ants.





### Procedure to install a hard cover AG station

Carefully spread Selleys® No More Gaps on the base of the AG station (Photo 3) so that a good seal will be made between the AG housing and the surface it is mounted on.

*Photo 3. Selleys No More Gaps spread on the base of the AG station.*



If needed, use the internal screws to hold the station to the mounting (Photo 4). If mounting onto a concrete surface where screws cannot be used, a small amount of hot glue can be used to fix the station to the concrete surface. No More Gaps can then be spread around the outside of the station to seal any air gaps. Using masking tape to hold the station in place while the sealant dries could also be beneficial.

*Photo 4. Internal screws hold the station to the mounting surface.*



"Windows" can be broken or cut out of the station to allow for it to be placed over mud leads or other obstacles. Sealant can then be squeezed around the opening to create a seal.

Other handy techniques are placing a monitoring device or two behind the AG station housing to allow for it to be mounted in places such as the edge of a door frame. Never break open a mud lead or expose the working termites until the housing is securely in place.

### Prepare the bait matrix

Studies have shown that termites prefer cellulose moistened with sugar solution compared to plain water (Waller & Curtis, 2003). This may improve strike rate but is not necessary particularly if ants may be a problem.

A 10% sugar solution is commonly used to moisten the baits, which equates to approximately 100 grams of brown or white sugar to 1 litre of water. Sugar solution should be made fresh daily, and care should be taken not to spill this around the installation site as it may attract ants.

The bait matrix is contained within a sealed polyethylene bag. Cut one corner of the bag with scissors. Pour approximately 150-200 mL of sugar solution or plain water (do not use cold water from the fridge) into the bag and massage until the bait matrix is evenly wetted and becomes a doughy consistency. Add more water if necessary. Ensure that the entire matrix has absorbed some moisture so that it is no longer grainy. The amount of moisture you add to the bait matrix will vary with climatic conditions and the moisture levels anticipated within the termite workings. You want enough moisture to encourage the termites into the matrix but not too much as it may deter them from entering. Most importantly you want the matrix to remain moist until your next monitoring visit, although generally if termites successfully hit the station this is not a problem as they will bring in more moisture if required.

### Expose the termites to the AG Bait

Make a second good size (approximately 6 x 10 cm) opening at the back of the bag of bait matrix to make it easy for the termites to enter the station. Use a knife or screwdriver to expose the termites that are active in the timber. Quickly place the prepared bait matrix, with the opened side of the plastic down towards the termites, inside the AG station. Press gently on the pliable matrix and ensure some is pushed down into the termite workings as this will act as a wick to draw the termites out into the matrix. Always leave the plastic bridge in place until you are ready to re-bait. The plastic helps the termites maintain a favourable micro-environment around the matrix, assisting with rapid consumption. This is particularly important in summer months. Use the plastic bridge provided to help hold the matrix in place when on an upright surface. Attach the AG station lid using the screws provided. To ensure a good seal place a small amount of sealant or masking tape around the edge of the lid to close up any gaps. Additional sealant may also be required at the base of the AG station.

Number or mark the AG station so you can identify it next time you visit the site. Mark all station positions on your site map.

### Use of Soft Black Cover

**Mounting on narrow or awkward surfaces, tight locations, limited access areas, in and around corners, over moulding and trims.**

For these situations, omit using the hard plastic AG housing, and use the soft black plastic cover in its place. Prepare the bag of bait as per the instructions, then place the black cover over the matrix bag. The black cover should completely block out light. Attach to the point of termite activity in a way that it is easily lifted in order to check for feeding eg. use tape or staples.



### Mounting on painted or treated surfaces

If paint or varnish is covering a surface that termites are feeding within, it is advisable to scrape back these layers around the access hole as it may repel the termites and stop them from tunnelling out into the AG station.

Remove pesticide residues from the mounting surfaces with warm water prior to installing an AG station. This would be necessary if the homeowner has tried to 'kill' the termites in the local area with a common household insect spray. Surfaces treated in creosote will need to have this repellent layer chiselled away before mounting the AG station.

DO NOT install stations onto Gyprock® unless the affected timber can be directly accessed. This may require removal of the Gyprock and direct attachment of the AG station to the underlying timber.

### Notes on other fixing or sealing products

Liquid Nails® is only suitable for use on the outside of the AG station. It can be used sparingly to help attach stations to plastic, brick, and concrete etc, but avoid its use if possible. Do not make contact with the bait matrix.

Masking tape can be used to hold stations in place while the sealant dries. Ensure tape does not make contact with the bait matrix. Tape can be removed gently once fixing agents have dried to help the station mounting look neat and professional.

Silicone and putty should not be used anywhere near AG stations as they contain strong solvents which can repel termites.

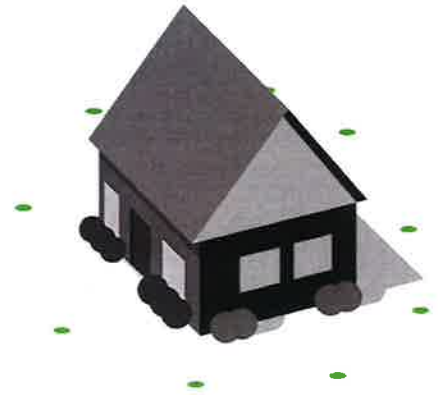
### Top Tips

- Check for prior treatments that may impact termite behaviour - you may need to prepare the area prior to installation.
- Placement where two timbers meet is ideal, preferably where galleries are evident, or over a mud lead.
- Installing more stations will increase the likelihood of a hit.
- Seal the AG station properly - this involves good preparation of the mounting area as well as sealing all external gaps.
- Ensure adequate moisture in the station.
- Ensure an adequate opening for termites to access the bait.
- Install with minimal disturbance to termites.
- Ensure no contamination - always wear gloves - if concerned, replace the bait.
- Don't give up - perfecting your installation technique takes time and it takes time to eradicate a colony - call the Sentricon team if you have any concerns.

### Making a Site Map

To aid identification, it is recommended to number the Sentricon stations with a permanent marker pen designed for outdoor use.

Mark the location of each Sentricon station on a site map.



Remember to account for any auxiliary stations in random 'hot spots' so they are included in monitoring visits.

### Sentricon AlwaysActive Stations

Sentricon AlwaysActive stations should be placed in the soil 300 to 500 mm off a foundation wall. If the structure has a wide concrete path, driveway, patio or similar, against the foundation wall, it will be necessary to drill core holes through the hard-surface into the soil to install the Sentricon two-piece IG station. If this is not possible, Sentricon AlwaysActive stations can be placed along the hard-surface edge where there is a natural moisture gradient; this must be discussed with the homeowner and noted as a limitation in your paperwork.

Wherever possible, additional Sentricon AlwaysActive stations should be installed in areas conducive to termite foraging. This will increase the likelihood of the Sentricon station getting 'hit' by termites.

Conducive conditions include:

- Areas that create a zone of high moisture around the foundation edge such as: air conditioning units; hot water units; irrigation systems; down-pipes and water run-off areas.
- Edges of paved or concrete paths as moisture coming off the path makes travel for termites easier.
- Near tree stumps, trees, woodpiles or any other wooden or cellulose materials in the garden.

## Installation of Sentricon RTI Stations

Sentricon RTI stations need to be placed into the soil in a hole pre-drilled with an auger. (Power augers speed up this process). They need to be installed so that the soil cover sits flush with the soil surface (see Photo 5) restricting entry of other insects and helping to maintain conditions inside the Sentricon RTI station that are conducive to termites.

Any lawn, gravel or mulch needs to be removed from under the soil cover before the Sentricon RTI station is installed. The best way to do this is to insert a small piece of wood inside the auger channel so that when the auger is turned, the wood clears a circular, flat surface for the soil-cover to sit on (see Photo 6).

*Photo 5. Sentricon RTI station correctly installed, sitting flush with the soil surface and with clearly identified station number.*



*Photo 6: A piece of wood in the auger channel helps clear the soil surface to create a flat base for the Sentricon station. It may also be used to clear lawn, gravel or mulch.*

Push the RTI station into the hole. Sometimes it may be necessary to use a soft rubber mallet to tap the RTI station in if the ground is hard or stony. In sandy soil it may be an advantage to pour water on the area before augering the hole. The water keeps the soil firm and reduces the tendency for the hole to cave in. The RTI station can also be wrapped in paper or cardboard before inserting it into the hole if sandy soil is proving to be an issue. In clay soil ensure the hole is deep enough to allow water to drain out of the RTI station.

## Coring concrete, pavers or asphalt

If there is no soil within a reasonable distance from a foundation edge, then a core hole through the concrete/pavers/ asphalt may be required to allow installation of the Sentricon two-piece IG station. Locate all utility lines and pipes so they can be avoided. Use a 81-83 mm core-drill bit to core through the surface to the soil. Then use an auger to remove soil to the correct depth, adding 6 - 7 cm to allow for any soil movement and the station cap (total of 16 - 17 cm). If the concrete is too deep or the soil level is too low, add non-treated topsoil to ensure the station sits 6 - 7 cm below the surface. Seal the hole with a stainless-steel cap (not the usual soil cover) to restrict entry by other insects, help maintain an environment conducive to termite activity, help prevent the station from flooding as well as prevent injury to people or animals. Core caps may vary, so ensure you purchase the correct size for your core hole.

## Installation into existing stations

Where a site has existing Sentricon IG stations that have been installed correctly and are still in good condition, these may be upgraded to the Sentricon AlwaysActive system. Open the top cap with the top cap key or pliers, remove the extractor and any monitoring devices that are

present. Clean the station of any tree roots, dirt and debris, using a clean-out auger if necessary. Remove the protective wrapper from the Sentricon IG Rod and place it in the station. The Sentricon IG Rod is hard and dry, it is not necessary to add water or moisten it in any way.

Replace the top cap, lock it with the top cap key or pliers, making it child-proof and pet-proof.

## Top Tips

- Avoid installations in/near previously treated soil.
- Have a minimum of stations every 3 metres. Add extra stations in termite conducive areas, e.g. where moisture gathers, retaining walls, slab expansion joints, stepping-stones, etc.
- Ensure station cap is flush with soil surface.
- Ensure station is not loose in the ground, employ a packing device to ensure a tight fit.
- Where there is shallow soil, and an alternative location is not available, stations and rods can be cut.
- Shallow trenches filled with wooden mulch across exposed, hot areas between stations will promote hits.

## In Construction

Sentricon AlwaysActive is an ideal construction termite management system as it:

- Adds value for the home buyer.
  - Allows full design scope for new builds and extensions.
  - Doesn't interrupt the building process with any specific scheduling of operations.
  - Doesn't expose workers or others to chemicals.
  - Is not affected by weather.
  - Is visible and does not break down over time.
  - Can be replenished quickly and easily.
- It is perfect in areas of difficult construction, such as steep slopes,

proximity to waterways, variable soil types, as well as sensitive areas, such as heritage sites, wildlife refuges, schools, etc.

### Use in construction requires these conditions:

- The Sentricon AlwaysActive system is to be installed by professional pest control managers who have successfully completed on-line training provided by Corteva Agriscience (refer to [www.sentricon.com.au](http://www.sentricon.com.au)).
- Installation must be in accordance with the current Sentricon AlwaysActive label and Technical Manual (refer to [www.sentricon.com.au](http://www.sentricon.com.au)).
- A Sentricon installation notice must be fully completed (date, name and contact of professional pest manager) and permanently fixed to the building in a prominent location, such as the meter box.
- A site map indicating station locations must be provided and retained by the homeowner along with records of installation.

### National Construction Code

Builders need to meet the criteria of the National Construction Code (NCC). This is a performance based code with two pathways to establish compliance. One is 'deemed-to-satisfy' and the other is a 'performance' solution.

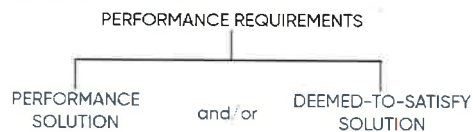


Figure 1. NCC A2.1 NCC compliance option structure

Termite management systems complying with Australian Standard AS3660.1 are 'deemed-to-satisfy' the NCC. This applies to most commonly used termite management systems such as reticulated chemical systems, blankets, guards, etc.

A 'performance solution' requires substantial evidence and specific criteria (refer to NCC P2.1.1 and A2.2(3)). An independent company accredited under the Joint accreditation System of Australia and New Zealand (JAS-ANZ) assessed Sentricon AlwaysActive against the NCC criteria and found that the system 'met or exceeded' the performance requirements. The CodeMark certificate of conformity is evidence that Sentricon is a performance solution termite management system under the NCC. The Certificate of Conformity is renewed every three years. No additional documentation is required to support this use.



### A stand-alone system

Sentricon is accredited as a stand-alone termite management system. This means that no other termite management systems and/or components are required to be installed. Termites are, however, insidious. For the relatively small investment, we recommend, where

possible, also installing collars and caps. Physical barriers, such as these, will complement the Sentricon system. Chemical treatments, particularly repellent insecticides, may prevent Sentricon from being effective and must be avoided.

### Use for additions/extensions

Sentricon AlwaysActive must be installed around the entire premises (existing structure plus additions) at 3 metre intervals. Sentricon AlwaysActive cannot be installed only around the addition, as there will remain the risk of termite infestation from the existing structure to the new addition. Where Sentricon AlwaysActive has been installed and an addition is being planned, stations in the construction zone can simply be removed and relocated around the perimeter of the new footprint of the building. Some additional stations may be required to ensure a station is located every 3 metres.

### Penetration points

Termites forage as deep as 6 metres and distances greater than 100 metres as they search for new food sources.

Termites may miss a liquid chemical, as dispersion is determined by environmental conditions. Physical barriers are ideal as long as they are installed correctly and are not compromised by other trades, tree roots, gardening, etc. Sentricon AlwaysActive stations intercept the random foraging patterns of worker termites. Sentricon IG Rods are ten times more palatable than wood, so are preferentially consumed.



Use of Sentricon AlwaysActive Versus Other Systems in Construction	Sentricon	Reticulated liquid	Blankets
Accredited under Australian BCA / NCC	Yes	Yes	Yes
Eliminates the entire termite colony	Yes	Occasionally	No
Scientific studies document colony elimination	70-	<5	0
Tangible and visible evidence of protection	Yes	No	Yes
Informs future termite activity	Yes	No	No
May need booster treatments	Yes	Yes	No
May impact water sources	No	Yes	No
May be disruptive to building, lawn, landscaping	No	Yes	No
Treatment may be relocated to accommodate changes	Yes	No	No



# Monitoring

Monitoring, maintenance and replacement of the system shall be undertaken by professional pest control managers who have successfully completed on-line training provided by Corteva Agriscience and be done in accordance with the current Sentricon Technical Manual.

The owner of the premises assumes all liability in ensuring that their choice of pest control manager meets the above requirements. Regular site and building inspections, conducted in accordance with AS3660.2 should be undertaken by a competent person on a frequency not exceeding 12 months.

Many factors affect the feeding and foraging behaviour of termites, such as: time of year; species of termite; soil structure; moisture level and disturbance. Every site needs to be judged on its own merit based on a risk assessment of the location and knowledge of the termite species. It is important at all times to use your professional judgment of the site risks and local termite knowledge to determine actual monitoring frequency for a site.

## Monitoring Tools

The following tools are recommended for you to carry with you when monitoring Sentricon stations:

- Torch
- Skewer
- Plastic recruiting container
- Screwdrivers (Phillips and flat)
- Small soft brush
- Utility knife
- Water bottle and/or mister
- Sugar for sugar water (or Gatorade® is popular)
- Disposable gloves
- Top cap pliers
- Long-nose pliers
- Station cleaning auger
- Monitoring devices
- Sentricon AG Termite Bait
- Sentricon IG Termiticide Rods
- Selleys® No-More Gaps
- Site map and pen

Other equipment to have available in your vehicle if required includes:

- Hand auger and/or power auger
- Cordless drill and bits
- Sentricon components
- Cardboard (to wrap stations)
- Bucket
- Mallet

Specialised pliers and augers are available from distributors.

# Sentricon AG Bait Stations

## Monitoring Intervals

The objective when monitoring AG Bait stations is to ensure your monitoring visits occur when approximately 90% of the bait has been consumed. For sites that have been established as a preferred feeding site and where 100% of the bait is consumed by the next monitoring visit it is common for the termites to return shortly after the bait is replenished. The key to successful re-baiting is to minimise the time between complete consumption of the bait to replacement. You need to avoid situations where the termites have vacated the area because they have had no food available for several weeks. For an active termite site we recommend monitoring intervals do not exceed 4 weeks in summer or 6 weeks in winter. In summer, the termite active months of the year, the monitoring interval may be as short as 2 weeks if the termite species appear to be feeding aggressively. You may wish to monitor AG Bait stations 2 to 3 weeks after the initial installation to gauge the level of termite activity and then decide whether to make the next interval longer.

## Monitoring Procedures

Care must be taken to avoid excessive disturbance when inspecting AG Bait stations. To check the soft cover AG stations, remove the securing devices (tape, staples) on three sides, and gently lift the cover up, but not completely off, to minimise disturbance. To open the hardcover AG stations, score the sealant around the lid with a sharp knife and then, using a flat screwdriver, gently pry open the lid.

Have your torch ready if you are in a poorly lit area. Quickly view the station to assess the extent of feeding. There could be as much mud as there is bait in the station. If this is the case, it is best to scrape out the mud before installing new bait.

If the termites are feeding on the bait and sufficient bait remains, quickly close the lid or black cover, re-seal and

make a note of the percent consumed. There will be times when you will want to restock when as little as 50% of the bait has been consumed, especially if you are not confident that enough bait will remain until next monitoring visit. If there is only a small amount of bait remaining in the station, then you will need to remove the remaining bait and replace it with new bait. Alternatively for hardcover stations, you can stack another AG station onto the first to make a larger amount of bait available. This is called a double stack. For softcover applications, a separate station will need to be installed. Continue to replace the bait until there is no further feeding and no worker termites present.

### How to double stack AG Bait stations

Prepare the new bait matrix first as described earlier. Apply a small amount of sealant to the outer edge of the base of the new AG station. Do the next steps as quickly as possible to minimise disturbance inside the existing AG station. Remove the lid of the active AG station then attach the second AG station housing. When in place, quickly but gently, remove the plastic bag that surrounds the first bait matrix and then place the newly prepared bait matrix into the station ensuring it makes good contact with the workings below. The pliable nature of the wetted bait matrix allows it to be moulded around the termite workings to create a favourable environment for them to feed. When happy with the position of the bait, replace the lid on the stacked station, re-using the first lid as this will contain the termite colonies' pheromones. Seal all air gaps with sealant. Modify this procedure where necessary but always be mindful of working quickly and efficiently so as not to disturb the termites unnecessarily.

Sometimes you will open the AG station and find that no bait has been consumed. In these situations slowly lift the bait matrix to see if the access hole is free of mud. If not, re-open the access hole and try again to draw termites in. If after several monitoring visits this is unsuccessful you may want to consider re-locating the station to another termite active position.

If, when you open a AG Bait station, you find that the bait matrix has been either completely mudded over or has been 'peppered' over with mud dots but no bait has been consumed, this could indicate several things: the bait matrix may be marked as a food source for future use; or the bait matrix may be too dry for feeding. Re-moistening the matrix may stimulate feeding in the latter situation. The peppering could indicate that the termites have been disturbed and consequently have abandoned the station.

## Sentricon AlwaysActive Stations

### Monitoring Intervals

Whilst no termite activity occurs, sites should be monitored every 3 to 6 months. For termite active sites, monitoring intervals should not exceed 4 weeks during summer and 6 weeks during winter. In some situations, the interval may be as short as 2 weeks, depending on the feeding behaviour of the colony. In the case of *Mastotermes*, due to their voracious consumption, enormous colony size, tendency for satellite colonies and the fact that they moult less often than other species, active sites should be monitored weekly and non-active sites every three weeks.

### Monitoring Procedures

When inspecting an AlwaysActive station, open the top cap using the top cap key or pliers. It is often obvious if the station has been hit on account of mudding. If you are unsure, use a torch and slide a cake skewer down into the rod to test its integrity. As a last resort extract the rod to determine the extent of consumption.

Over time, rods may take on different colours, crack and develop surface moulds. This is expected and is totally normal. Discoloured, mouldy or cracked rods should not be replaced; they are just as palatable, if not more so, than new rods (see Photo 7).

*Photo 7. A new Sentricon IG Termiticide Rod adjacent to a gnarly rod. Both are palatable and efficacious to termites. Do not replace until 50% or more of the rod has been consumed*



If a rod is more than 50% consumed it should be replaced. If less than 50% is consumed, use your best judgment on replacement, based on your customer run schedule, how fast the termites are feeding and how much of the bait is consumed. Work as fast as possible so as not to expose the termites for too long. Remember to always make a note of the date and how much of the rod has been consumed for each station. This is important record keeping information for supporting any future claims of colony elimination.

Continue to replace the rods until there is no further feeding and no worker termites are present.

## General Maintenance of Sentricon AlwaysActive Stations

When monitoring AlwaysActive stations maintenance will be required in the following circumstances:

- The soil cover does not sit flush with the soil surface. In some situations the hole may need to be re-augered to help create a flat surface for the soil cover using the technique shown in Photo 6.
- Re-occurring problems with other insects invading the station or water-logging. In these situations it may be necessary to re-position the station away from the problem area. (Water-logging will not impact the efficacy of the AlwaysActive rod, but will prevent termites from hitting the station).

### If other insects invade AlwaysActive stations

There are pests other than termites that invade Sentricon AlwaysActive stations. Some of these invaders are detrimental to the Sentricon station's performance (e.g. ants) while others appear to have minimal effect (e.g. earthworms). The most common reason for AlwaysActive station invasion is incorrect installation of the soil-cover. Gaps under the soil cover allow entry into the station of soil surface dwelling pests. Below are some helpful hints on how to rectify problems with other insects:

- Ants are predators of termites and are therefore the most destructive invaders. The preferred way to deter ants from 'living' inside the station is to flood it with water. If this happens often enough the ants will usually vacate the area. If flooding is not successful, consider relocating the station or try a very light application of ant bait around the station. Ensure the ant bait is not applied within 5 cm of the soil cover.
- Wood slaters can deter termites from establishing the area as a feeding site and so need to be prevented from entering. Entry is usually gained via an air gap between the soil cover and the soil. Ensure the soil cover sits flush with the soil surface.
- Earthworms do not usually pose a problem and tend not to affect the performance of the AlwaysActive station.
- Slugs normally enter under the soil cover. If not managed, an AlwaysActive station can get invaded by a large number of slugs and this will likely deter termite feeding. Clean out the station and ensure the soil cover sits flush with the soil surface.

Other pests are often found in AlwaysActive stations that have not been installed correctly or maintained. These include earwigs, spiders, and tiny soil dwelling insects such as collembola (spring-tails); all of which should be managed through regular station maintenance. Clean out the station and ensure the soil cover sits flush with the soil surface.

### Top Tips:

- Control ant populations in and around stations as they will repel termites.
- Advise landowner not to use general household insecticides near termite site.
- Monitor with the least disturbance possible, especially where *Coptotermes frenchi* and *Schedorhinotermes* sp. are suspected.

- Ensure all stations are checked, including auxiliary stations in 'hot spots'.
- Always look for opportunities for additional stations - the more stations you have, the more chances you will get a hit.

## Colony elimination

The Sentricon system has proven its ability to eliminate termite colonies. Colony elimination is what homeowners want, and what your business needs.

Signs that a colony is affected include:

- A visible cream/white colour change seen in the bodies of the termites, particularly worker termites (when viewed under magnification);
- Small white balls of crystallised uric acid;
- An increase in the ratio of soldiers to workers (approximately 6 to 1);
- Caste members start to exhibit odd behaviour and sluggish movements.

We recommend that these changes be recorded as evidence of colony elimination. Remember to maintain vigilance however, as an empty termite nest and gallery system is an open invitation for a new colony to move in. They may even start moving in before the original colony has completely died. Annual inspections combined with ongoing maintenance of the Sentricon system is the only way to ensure the termite queen is gone and is not coming back.