



# SAFETY DATA SHEET

## ASTRAL 250 EC Insecticide/Miticide

Infosafe No.: 3NUY9  
ISSUED Date : 04/08/2022  
ISSUED by: NUFARM AUSTRALIA LIMITED.

### Section 1 - Identification

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**Product Identifier**

ASTRAL 250 EC Insecticide/Miticide

**Product Code**

5352 NUL2722

**Product Type**

Group 3A Insecticide

**Company Name**

NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)

**Address**

103-105 Pipe Road Laverton North  
Victoria 3026 AUSTRALIA

**Telephone/Fax Number**

Tel: +61 3 9282-1000

Fax: +61 3 9282-1001

**Emergency Phone Number**

1800 033 498 (24hr Australia)

**Emergency Contact Name**

www.nufarm.com.au

**E-mail Address**

SDSANZ@nufarm.com

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

Controls insect pests and mites of apricots, bananas, barley, canola, citrus, clover, cotton, cucurbits, faba beans, field peas, grapes, lucerne, lucerne seed crops, lupins, navy beans, nectarines, peaches, pears, plums, poppies, subterranean clover, sugarcane, sweet potatoes, tomatoes and wheat as specified in the Directions for Use table on the label.

### Section 2 - Hazard(s) Identification

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**GHS classification of the substance/mixture**

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Flammable liquids: Category 4

Acute toxicity: Category 2 - Oral

Acute toxicity: Category 4 - Inhalation

Skin corrosion/irritation: Category 2

Eye damage/irritation: Category 2A

Sensitisation - skin: Category 1B

Carcinogenicity: Category 2

Specific target organ toxicity (single exposure): Category 3 (Narcotic)

Specific target organ toxicity (repeated exposure): Category 1

Aspiration hazard: Category 1

Hazardous to the Aquatic Environment - Acute Hazard: Category 1  
Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1

### Signal Word (s)

DANGER

### Hazard Statement (s)

H227 Combustible liquid.  
H300 Fatal if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H336 May cause drowsiness or dizziness.  
H351 Suspected of causing cancer.  
H372 Causes damage to organs (nervous system) through prolonged or repeated exposure.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

### Pictogram (s)

Skull and crossbones, Health hazard, Environment



### Precautionary Statement – Prevention

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Precautionary Statement – Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor  
P331 Do NOT induce vomiting.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P370+P378 In case of fire: Use appropriate media to extinguish.  
P391 Collect spillage.

### Precautionary Statement – Storage

P403 Store in a well-ventilated place.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

### Precautionary Statement – Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

## Section 3 - Composition and Information on Ingredients

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### Ingredients

Name	CAS	Proportion
Solvent naphtha (petroleum), heavy arom.	64742-94-5	640 g/L
bifenthrin (ISO)	82657-04-3	250 g/L
Ingredients determined not to be hazardous		Balance

## Section 4 - First Aid Measures

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### Inhalation

If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

### Ingestion

Do NOT induce vomiting. Immediately wash out mouth with water (never give anything by mouth if affected person is semi-conscious or unconscious). Where vomiting occurs naturally have affected person place head below hip level in order to reduce risk of aspiration. Seek immediate medical attention.

### Skin

Remove all contaminated clothing immediately. Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse or discard. Seek medical attention.

### Eye

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. Seek medical attention.

### First Aid Facilities

Eyewash, safety shower and normal washroom facilities.

### Advice to Doctor

Treat symptomatically.

If vomiting occurs, solvent present may cause pulmonary pneumonitis.

Exposure to bifenthrin can result in sensations of tingling especially in the face. The effects are transient and generally disappear in one to two days. Topical application of vitamin E cream is effective in reducing discomfort.

### Other Information

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

## Section 5 - Firefighting Measures

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### Suitable Extinguishing Media

Water fog, foam, carbon dioxide or dry chemical.

### Unsuitable Extinguishing Media

Do not use water jet.

### Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

### Specific hazards arising from the chemical

Combustible. This product will burn if exposed to fire.

### Special Protective Equipment and Precautions for Firefighters

Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

### Hazchem Code

2X

## Decomposition Temperature

Not available

## Section 6 - Accidental Release Measures

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### Emergency Procedures

Remove all sources of ignition. Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using explosion proof vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

## Section 7 - Handling and Storage

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### Precautions for Safe Handling

Toxic and combustible liquid. Avoid exposure. Exposure without protection must be prevented. Wear appropriate personal protective equipment and clothing to prevent exposure. Use in designated areas with local exhaust ventilation. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in spray or mists or vapours. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain toxic residues. Do not empty into drains. Maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or using toilet facilities. Avoid exposure. Do not handle until all safety precautions have been read and understood.

### Conditions for safe storage, including any incompatibilities

This material is Toxic and must be stored, handled and maintained according to the appropriate regulations. Limit quantity in storage. Restrict access to storage area. Post appropriate warning signs. Consider leak detection and alarm systems, as required. Structural materials and lighting and ventilation systems in storage area should be corrosion resistant. Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, strong mineral acids, bases metal and/or water.

Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids and AS/NZS 4452 - The storage and handling of toxic substances.

### Storage Regulations

Classified as a Class C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS1940 2017.

## Section 8 - Exposure Controls and Personal Protection

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### Occupational exposure limit values

No exposure standards have been established for the mixture. However, over-exposure to some chemicals may result in enhancement of pre-existing adverse medical conditions and/or allergic reactions and should be kept to the least possible levels. The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m<sup>3</sup>; 17ppm TWA, as total hydrocarbon.

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

### Biological Monitoring

No biological limits allocated.

### Control Banding

Not available

### Engineering Controls

This substance is toxic and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. Provide sufficient ventilation to keep airborne levels below the exposure limits or as low as possible. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Alternatively, a process enclosure system such as a fume cupboard should be employed.

### Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

### Eye and Face Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 (series) - Eye Protectors for Industrial Applications.

### Hand Protection

Wear gloves of impervious material such as PVC. Final choice of appropriate gloves will vary according to individual circumstances. i. e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

### Thermal Hazards

No further relevant information available.

### Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

## Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	Appearance	Clear brown coloured liquid.
Colour	Brown	Odour	Not available
Boiling Point	Not available	Decomposition Temperature	Not available
Solubility in Water	Forms an emulsion in water	Specific Gravity	0.969
pH	5-6 (1% solution)	Vapour Pressure	0.0178 mPa @ 20°C for bifenthrin
Relative Vapour Density (Air=1)	Not available	Evaporation Rate	Not available
Odour Threshold	Not available	Viscosity	Not available
Volatile Component	Not available	Partition Coefficient: n-octanol/water (log value)	Kow Log P is 6.6 for bifenthrin
Flash Point	66°C	Flammability	Combustible liquid C1. (Does not sustain combustion) AS 1940
Auto-Ignition Temperature	Not available	Explosion Limit - Upper	Not available
Explosion Limit - Lower	Not available	Explosion Properties	Not available
Oxidising Properties	Not available	Particle Size	Not available

## Section 10 - Stability and Reactivity

### Reactivity

Reacts with incompatible materials.

**Chemical Stability**

Stable under normal conditions of storage and handling.

**Possibility of hazardous reactions**

Reacts with incompatible materials.

**Conditions to Avoid**

Heat, open flames and other sources of ignition.

**Incompatible Materials**

Strong oxidising agents.

**Hazardous Decomposition Products**

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

**Hazardous Polymerization**

Will not occur.

**Section 11 - Toxicological Information**

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**Toxicology Information**

No toxicity data available for this material. The available acute toxicity data for the ingredient/s is/are given below.

**Acute Toxicity - Oral**

Bifenthrin

LD50 (rat): 54.5 mg/kg

**Acute Toxicity - Dermal**

LD50 (rat): >2000mg/kg

**Ingestion**

Fatal if swallowed. Ingestion of this product may cause irritation to the mouth, throat, oesophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting, diarrhoea, central nervous system depression and a burning or itching sensation.

May be fatal if swallowed and enters airways. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause severe pulmonary injury that may lead to death. May cause irritation to the mouth, throat, esophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

**Inhalation**

Harmful if inhaled. Inhalation of product vapours in high concentrations of aerosols of this material may have the effects noted above and, in addition, cause nausea and irritation of the nose, throat and respiratory tract. May cause irritation to the mucous membrane and upper airways, especially where vapours or mists are generated. Symptoms include sneezing, coughing, wheezing, shortness of breath, headache, dizziness, drowsiness, nausea and vomiting.

**Skin**

Causes skin irritation. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.

Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.

Prolonged contact with the concentrate may result in absorption of bifenthrin in harmful amounts.

May cause an allergic skin reaction

Exposure to bifenthrin can result in sensations of tingling especially in the face. The effects are transient and generally disappear in one to two days. Topical application of vitamin E cream is effective in reducing discomfort.

**Eye**

Causes serious eye irritation. On eye contact this product will cause tearing, stinging, blurred vision, and redness.

**Respiratory Sensitisation**

Not expected to be a respiratory sensitiser.

**Skin Sensitisation**

May cause an allergic skin reaction

Skin contact may produce skin sensations such as numbing, burning and tingling. These sensations are reversible and usually subside within 24 hours.

**Germ Cell Mutagenicity**

Not considered to be a mutagenic hazard.

**Carcinogenicity**

Suspected of causing cancer. Classified as a suspected human carcinogen.

An impurity present in the solvent has been found to cause tumors in laboratory studies. The active ingredient, bifenthrin, is a suspected human carcinogen based on limited evidence from studies on laboratory animals.

#### **Reproductive Toxicity**

Not considered to be toxic to reproduction.

#### **STOT - Single Exposure**

May cause drowsiness or dizziness.

#### **STOT - Repeated Exposure**

Causes damage to organs (nervous system) through prolonged or repeated exposure.

#### **Aspiration Hazard**

May be fatal if swallowed and enters airways.

#### **Other Information**

The Australian Acceptable Daily Intake (ADI) for bifenthrin for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. Ref: Australian Pesticides and Veterinary Medicines Authority (APVMA) June 2022.

## **Section 12 - Ecological Information**

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#### **Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

No ecological data available for this material. The available ecological data for the ingredients is given below:

#### **Persistence and degradability**

Strongly bound to soil.

#### **Mobility**

Not available

#### **Bioaccumulative Potential**

Not available

#### **Environmental Protection**

Do not discharge this material into waterways, drains and sewers.

#### **Acute Toxicity - Fish**

Bifenthrin:

LC50 (rainbow trout): 0.00026 mg/l/96h

#### **Acute Toxicity - Daphnia**

Bifenthrin:

EC50 (daphnia magna): 0.00011 mg/l/48h

#### **Acute Toxicity - Other Organisms**

Bifenthrin:

LD50 for bobwhite quail is 1800 mg/kg

Bifenthrin products do not appear to pose any threat to birds.

Bifenthrin:

LD50 (contact) 0.01µg/bee

Toxic to bees.

Should not be applied while bees are actively foraging.

#### **Hazardous to the Ozone Layer**

This product is not expected to deplete the ozone layer.

## **Section 13 - Disposal Considerations**

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#### **Disposal Considerations**

Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

To minimise personal exposure, refer to Section 8 - Exposure Controls and Personal Protection.

## Product Disposal

On site disposal of the concentrated product is not acceptable.

Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

## Container Disposal and Methods

Do not use this container for any other purpose.

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.

Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage.

If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal at an approved waste management facility.

If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations.

Triple or preferably pressure rinse inner bladder or containers before disposal. Add rinsings to the spray tank.

DO NOT burn empty containers or product.

## Section 14 - Transport Information

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### Transport Information

Road and Rail Transport (ADG Code):

This material is classified as Dangerous Goods Division 6.1 - Toxic substance

Must not be loaded in the same freight container or on the same vehicle with:

- Class 1: Explosives
- Food items

Note 1: Cyanides (Division 6.1) must not be loaded in the same freight container or on the same vehicle with acids (Class 8).

Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Division 5.1: Oxidising substances
- Division 5.2: Organic peroxides

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Division 5.1: Oxidising substances
- Division 5.2: Organic peroxides
- Food items

Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Class/Division: 6.1

UN No: 3352

Proper Shipping Name: PYRETHROID PESTICIDE, LIQUID, TOXIC

Packing Group: II

EMS: F-A, S-A

Special Provisions: 61, 274

Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Class/Division: 6.1

UN No: 3352

Proper Shipping Name: Pyrethroid pesticide, liquid, toxic

Packing Group: II

Packaging Instructions (passenger & cargo): 654

Packaging Instructions (cargo only): 662

Hazard Label: Toxic

Special Provisions: A3, A4

### ADG U.N. Number

3352

**ADG Proper Shipping Name**

PYRETHROID PESTICIDE, LIQUID, TOXIC

**ADG Transport Hazard Class**

6.1

**ADG Packing Group**

II

**Hazchem Code**

2X

**IERG Number**

34

**Special Precautions for User**

Not available

**IMDG Marine pollutant**

Yes

**Transport in Bulk**

Not available

## Section 15 - Regulatory Information

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**Regulatory Information**

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.

Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).  
WHS Schedule 11, item 10 (flammable liquid, category 4 ), item 33 (acute toxicity, category 2).

**Poisons Schedule**

S6

**Montreal Protocol**

Not listed

**Stockholm Convention**

Not listed

**Rotterdam Convention**

Not listed

**International Convention for the Prevention of Pollution from Ships (MARPOL)**

Not available

**Agricultural and Veterinary Chemicals Act 1994**

APVMA product number: 68017.

This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA).

**Basel Convention**

Not listed

## Section 16 - Any Other Relevant Information

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**Date of Preparation**

SDS Reviewed: August 2022

Supersedes: August 2017 + June 2017

**Version Number**

3.0

**Literature References**

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.

Standard for the Uniform Scheduling of Medicines and Poisons.

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Code of Practice for Supply Diversion into Illicit Drug Manufacture.  
National Code of Practice for Chemicals of Security Concern.  
Agricultural Compounds and Veterinary Chemicals Act.  
International Agency for Research on Cancer (IARC) Monographs.  
Montreal Protocol on Substances that Deplete the Ozone Layer.  
Stockholm Convention on Persistent Organic Pollutants (POPs).  
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.  
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.  
International Air Transport Association (IATA) Dangerous Goods Regulations.  
International Maritime Dangerous Goods (IMDG) Code.  
Workplace exposure standards for airborne contaminants.  
Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).  
Globally Harmonised System of Classification and Labelling of Chemicals (7th revised edition).  
Code of Practice: Managing Noise and Preventing Hearing Loss at Work.

**Contact Person/Point**

Normal hours: SDS coordinator : Phone +61 3 9282 1000

After hours: Shift supervisor : Phone 1800 033 498

**END OF SDS**

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