

MATERIAL SAFETY DATA SHEET



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AMINOZ CT 300 HERBICIDE BY SANONDA

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

Product Name: AminoZ CT 300 Herbicide by Sanonda
Other names: 2,4-D Isopropylamine salt
Recommended use: Water soluble herbicide for non-selective control of many annual and perennial weeds.
Supplier: Sanonda (Australia) Pty Ltd
ACN: 059 813 973
Address: Suite 822, St Kilda Rd Towers, No. 1 Queens Rd, Melbourne, VIC 3004
Telephone: 03 9863 8081
Facsimile: 03 9863 8083
Emergency phone number: 03 9863 8081

2. HAZARD IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Hazardous according to the criteria of SWA. Not subject to the ADG Code when transported by Road and Rail (ADG 7, Special Provision AU01).

Risk Phrases:

R20/22. Harmful by inhalation and if swallowed.

Safety Phrases:

S2, S13, S20, S23, S28, S38, S45, S47, S24/25, S36/37/39. Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. When using, do not eat or drink. Do not breathe vapours or spray mists. After contact with skin, wash immediately with plenty of water. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show this MSDS where possible). Keep at temperature not exceeding 30°C. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

NAME	CAS RN	Concentration (w/v, g/L)	TWA (mg/m ³)	STEL (mg/m ³)
2, 4-dichlorophenoxyacetic acid isopropylamine salt	5742-17-6	2,4-D acid 300g/L	Not set	Not set
Water	7732-18-5	Balance	Not set	Not set

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4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (phone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to a doctor.

FIRST AID

Inhalation:

No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

Skin Contact:

Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

Eye Contact:

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion:

If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

SYMPTOM

No occupational studies were found reporting signs or symptoms following exposure to 2,4-D under normal usage.

Symptoms of acute oral exposure to 2, 4-D include vomiting, diarrhea, headache, confusion, aggressive or bizarre behavior.

A peculiar odor is sometimes noted on the breath. Skeletal muscle injury and renal failure may also occur. Systemic toxicity is mainly associated with suicide attempts.

Symptoms following dermal exposure may include irritation, and inhalation exposure may lead to coughing and burning sensations in the upper respiratory tract and chest. Prolonged exposure may result in dizziness. Chlorophenoxy compounds such as 2,4-D are quickly absorbed when swallowed, but absorption from dermal or inhalation exposure is low.

ADVICE TO DOCTOR

Treat symptomatically. No specific antidote.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray or fog. Foam.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

Wear full body protective clothing with breathing apparatus.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

FIRE/EXPLOSION HAZARD

Combustible.

Slight fire hazard when exposed to heat or flame.

Combustion products include: carbon dioxide (CO₂), hydrogen chloride, phosgene, nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

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FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM: 2X

PERSONAL PROTECTIVE EQUIPMENT

Gas tight chemical resistant suit.

6. ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE

In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

7. HANDLING AND STORAGE

Handling:

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage:

This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment:	AS/NZS 1715
Protective Gloves:	AS 2161
Occupational Protective Clothing:	AS/NZS 4501 set 2008
Industrial Eye Protection:	AS1336 and AS/NZS 1337
Occupational Protective Footwear:	AS/NZS2210

SWA Exposure Limits	TWA (mg/m³)	STEL (mg/m³)
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Exposure limits have not been established by ASCC for any of the significant ingredients in this product.

The ADI for 2, 4-D is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, April 2008.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation:

This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection:

Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

Protective Material Types:

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

Respirator:

Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Colour:	Clear reddish brown liquid
Odour:	Ammoniacal odour
Boiling point (°C):	About 100 °C
Vapour Pressure:	16 mm Hg (water)
Specific Density:	1.096
Flashpoint:	Non flammable
Flammability Limits:	Non flammable
Solubility in Water:	Completely soluble
Water Solubility:	Completely soluble in water.
pH:	No data.
Volatility:	No data.

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Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	Does not burn.

10. STABILITY AND REACTIVITY

Reactivity:

This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid:

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

Incompatibilities:

Strong oxidising agents.

Fire Decomposition:

Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation:

This product will not undergo polymerisation reactions.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

The acid form of 2,4-D is classified as "harmful". The oral LD50 of 2,4-D ranges from 375 to 666 mg/kg in the rat, 370 mg/kg in mice, and from less than 320 to 1000 mg/kg in guinea pigs. The dermal LD50 values are 1500 mg/kg in rats and 1400 mg/kg in rabbits, respectively..

EFFECTS OF ACUTE EXPOSURE:

Ingestion:

Harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

Skin Contact:

May cause slight transient irritation. Overexposure by skin absorption may cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

Inhalation:

Contains materials that may be moderately toxic. Vapours could cause headache, dizziness, respiratory irritation and symptoms similar to those from ingestion.

Eye Contact:

Causes severe eye irritation including corneal opacity and irreversible eye damage. Causes redness and tearing. Vapours and mist can cause irritation.

Medical Conditions Aggravated:

Skin exposure may aggravate preexisting skin conditions. Inhalation of mist may aggravate preexisting respiratory conditions.

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EFFECTS OF LONG TERM EXPOSURE:

Subchronic (target organ) effects:

(An adverse effect with symptoms that develop slowly over a long period of time): Repeated overexposure may cause effects to liver, kidneys, blood chemistry, and gross motor function. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high doses for prolonged periods.

Chronic Effects/Carcinogenicity:

The International Agency for Research on Cancer (IARC) lists exposure to chlorophenoxy herbicides as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans. However, more current 2, 4-D lifetime feeding studies in rats and mice did not show carcinogenic potential.

Reproductive Toxicity:

No impairment of reproductive function attributable to 2, 4-D has been noted in laboratory animal studies.

Developmental Toxicity:

Studies in laboratory animals with 2, 4-D have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals.

Genotoxicity:

There have been some positive and some negative studies, but the weight of evidence is that 2, 4-D is not mutagenic.

Principle Routes Of Exposure:

Eye contact. Skin absorption. Inhalation. Oral.

Toxicologically Synergistic Materials:

None known.

Other:

None known

12. ECOLOGICAL INFORMATION

ECOTOXICITY (2,4-D ACID)

Effects on birds: 2,4-D is harmful to wildfowl and slightly to moderately toxic to birds. The LD50 is 1000 mg/kg in mallards, 272 mg/kg in pheasants, and 668 mg/kg in quail and pigeons.

Effects on aquatic organisms: Some formulations of 2, 4-D are highly toxic to fish while others are less so. Limited studies indicate a half-life of less than 2 days in fish and oysters. Concentrations of 10 mg/L for 85 days did not adversely affect the survival of adult dungeness crabs. For immature crabs, the 96-hour LC50 is greater than 10 mg/L, indicating that 2,4-D is only slightly toxic. Brown shrimp showed a small increase in mortality at exposures of 2 mg/L for 48 hours.

Effects on other organisms: Moderate doses of 2, 4-D severely impaired honeybees brood production. At lower levels of exposure, exposed bees lived significantly longer than the controls. The honeybee LD50 is 0.0115 mg/bee.

Environmental fate

In soil:

2,4-D has a relatively short half-life and is rather immobile in the soil. In 35 recent field dissipation studies across the U.S., less than 5% of applied 2,4-D moved downward more than 15 cm (6 inches). The average lowest depth detected ranged from 6 to 12 inches in soils of the southern United States and 16 to 24 inches in low organic soils where greater movement would be expected. Soils were sampled to a depth of 48 inches and analyzed for

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2,4-D plus its soil metabolites until two analyses provided a result of “non-detectable” at each sampled depth. Even though laboratory solubility studies indicated 2,4-D is potentially mobile, rapid degradation in the soil and removal from soil by plant uptake minimizes leaching under realistic application conditions.

Field dissipation studies found that 2,4-D had an apparent soil half-life of 5 days with a range of 1.7 to 13.1 days. The moisture content of the soil appears to have a major effect on the half-life, since the main route of degradation is by microorganisms. The commonly used 2,4-D amine salts and 2,4-D esters are not persistent under most environmental conditions. Dissociation of 2,4-D amine salt is expected to be instantaneous (<3 minutes) under most environmental conditions. Ester forms of 2,4-D biotransform and hydrolyze rapidly to the acid in natural soil (1 to 10 days) and natural water conditions (<1 day). Under these conditions, the environmental exposure from 2,4-D esters and 2,4-D amines is expected to be minimal in both terrestrial and aquatic environments.

In water:

In aquatic environments microorganisms readily degrade 2,4-D and breakdown by sunlight is not a major reason for loss. Rates of breakdown increase with increased nutrients, sediment load and dissolved organic carbon. Under oxygenated conditions the half-life can be short, in the order of one week to several weeks. 2,4-D interferes with normal plant growth processes.

In vegetation:

The average half-lives of 2,4-D in grass and thatch were < 7 days. The half-life in natural water was one to two weeks, although in areas such as a treated rice paddy, the half-life was as short as one day.

Uptake of the compound is through leaves, stems and roots; however, it is generally nonpersistent. In one study when 2,4-D was applied to grass, there were 80 ppm at day zero, 45 ppm at 14 days, and 6 ppm at 56 days. Breakdown in plants is by a variety of biological and chemical pathways

13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Add rinsing to spray tank. Do not dispose of undiluted chemical on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and tree roots. Empty containers and product should not be burnt.

RETURNABLE CONTAINERS: Empty containers fully into application equipment. Close all valves and return to point of supply for refill or storage.

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14. TRANSPORT INFORMATION

Road and Rail Transport

Not Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG) for transport by Road and Rail.

Marine Transport

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

UN-No: 3082

Class: 9 Miscellaneous Dangerous Goods

Packing group: Packing Group 3

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS LIQUID, N.O.S.
(CONTAINS 2,4-D)

This material is classified as a Marine Pollutant according to the International Maritime Dangerous Goods Code.

Air Transport

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

UN-No: 3082

Class: 9 Miscellaneous Dangerous Goods

Packing group: Packing Group 3

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS LIQUID, N.O.S.
(CONTAINS 2,4-D)

15. REGULATORY INFORMATION

POISONS SCHEDULE: S5

REGULATIONS

Regulations for ingredients 2,4-dichlorophenoxyacetic acid dimethylamine (CAS: 2008-39-1) is found on the following regulatory lists:

"Australia Inventory of Chemical Substances (AICS)", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk"

Water (CAS: 7732-18-5) is found on the following regulatory lists:

"Australia Inventory of Chemical Substances (AICS)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "OECD Representative List of High Production Volume (HPV) Chemicals"

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16. OTHER INFORMATION

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

All due care and skill, so far as practicable, has been applied in the preparation and collation of the information in this MSDS. Each user of the Product named in this MSDS should read and consider the information contained in this MSDS in the context of how the Product will be stored, handled, used or applied in the workplace. In all circumstances, it is the responsibility of the user of the Product to ensure that they have sought out the relevant safety data appropriate to their particular situation. Nothing contained in this MSDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this MSDS for the user's particular situation. If the user requires any clarification or further information, the user should contact Sanonda (Australia) Pty Ltd.

CONTACT POINT:

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Telephone: 03 9863 8081

Facsimile: 03 9863 8083

National Poisons Information Centre: Dial 13 11 26 (from anywhere in Australia)
Please read all labels carefully before using product.