

MATERIAL SAFETY DATA SHEET

Product Name: Genfarm Cyanazine 900 WDG Herbicide

This revision issued: September, 2010

Page: 1 of 6

Section 1 - Identification of The Material and Supplier

Landmark Operations Limited
Suite 2, Level 3, 64 Talavera Road
Macquarie Park, NSW, 2113

Phone: (02) 9889 5400
Fax: (02) 9889 5411

Chemical nature: Cyanazine is a triazine derivative.
Trade Name: Genfarm Cyanazine 900 WDG Herbicide
Product Use: Agricultural herbicide for use as described on the product label.
Creation Date: August, 2005
This version issued: September, 2010 and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of SWA Australia.
Dangerous according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R25. Toxic if swallowed.

Safety Phrases: S20, S25, S37. When using, do not eat or drink. Avoid contact with eyes. Wear suitable gloves.

SUSMP Classification: S6

ADG Classification: Class 6.1: Toxic substances.

UN Number: 2763, TRIAZINE PESTICIDE, SOLID, TOXIC

Emergency Overview

Physical Description & colour: Off-white granulated solid.

Odour: Characteristic odour.

Major Health Hazards: toxic if swallowed.

Potential Health Effects

See section 11 for Chronic exposure studies.

Inhalation

Short term exposure: Significant inhalation exposure is considered to be unlikely. Available data indicates that this product is not harmful. However product is believed to be mildly irritating, but unlikely to cause anything more than mild discomfort.

Skin Contact:

Short term exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product is believed to be mildly irritating, but is unlikely to cause anything more than mild transient discomfort.

Eye Contact:

Short term exposure: Exposure via eyes is considered to be unlikely. This product is believed to be mildly irritating, to eyes, but is unlikely to cause anything more than mild transient discomfort.

Ingestion:

Short term exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is toxic, but further symptoms are not available. This product is unlikely to cause any irritation problems in the short or long term.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

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

MATERIAL SAFETY DATA SHEET

Product Name: Genfarm Cyanazine 900 WDG Herbicide

This revision issued: September, 2010

Page: 2 of 6

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Cyanazine	21725-46-2	90	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Inhalation: If irritation is experienced, remove victim from area and allow to breath fresh air. If irritation persists, call a doctor or poisons information centre.

Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 10 minutes or until chemical is removed. If irritation persists, repeat flushing and obtain medical advice.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed, while holding the eyelid(s) open. Obtain medical advice immediately if irritation occurs.

Ingestion: If swallowed, rinse mouth thoroughly with water and contact a Poisons Information Centre, or call a doctor at once. Give activated charcoal if instructed.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point: Not flammable.

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: No data.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face

MATERIAL SAFETY DATA SHEET

Product Name: Genfarm Cyanazine 900 WDG Herbicide

This revision issued: September, 2010

Page: 3 of 6

protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Because of the toxicity of this product, special personal care should be taken in any cleanup operation. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

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

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 1000kg or 1000L of Toxic Substances of Packaging Group III, you are probably required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

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

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

SWA Exposure Limits **TWA (mg/m³)**

STEL (mg/m³)

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Cyanazine is set at 0.002mg/kg/day. The corresponding NOEL is set at 0.2mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2004.

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

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

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

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

MATERIAL SAFETY DATA SHEET

Product Name: Genfarm Cyanazine 900 WDG Herbicide

This revision issued: September, 2010

Page: 4 of 6

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.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Off-white granulated solid.
Odour:	Characteristic odour.
Boiling Point:	No specific data. Expected to decompose before boiling.
Freezing/Melting Point:	167°C
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	Negligible at normal ambient temperatures.
Vapour Density:	No data.
Specific Gravity:	No data. Bulk density 0.65 approx
Water Solubility:	Dispersible.
pH:	No data.
Volatility:	Negligible at normal ambient temperatures.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	No data
Autoignition temp:	No data.

Section 10 - Stability and Reactivity

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

Conditions to Avoid: Containers should be kept dry. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

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

Fire Decomposition: 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. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Acute toxicity: Cyanazine is toxic to mammals. The oral LD₅₀ in rats ranges from 182 mg/kg to 332 mg/kg, with females experiencing higher toxicities (lower LD₅₀). The oral LD₅₀ is 380 mg/kg in mice and 141 mg/kg in rabbits. Poisoned animals have laboured breathing and blood in their saliva. Cyanazine may also cause inactivity and depression in laboratory animals. The dermal LD₅₀ in rabbits treated with technical cyanazine is greater than 2000 mg/kg, and the dermal LD₅₀ in rats is greater than 1200 mg/kg. Cyanazine is harmful through inhalation. It is a mild eye irritant.

Chronic toxicity: Several long-term feeding studies in rats and mice at doses up to 225 mg/kg/day showed that cyanazine decreases body weight gain and increases liver weights.

Reproductive effects: It appears that reproductive effects are not likely in humans at expected exposure levels.

Teratogenic effects: Cyanazine can cause a variety of birth defects in animals over a wide range of doses. Birth defects have been observed in the offspring of pregnant rats fed cyanazine during gestation at doses as low as 1 mg/kg/day.

Mutagenic effects: Cyanazine is not mutagenic.

Carcinogenic effects: Cyanazine does not appear to be carcinogenic.

Organ toxicity: Cyanazine in animals causes depression of the central nervous system.

Fate in humans and animals: Low doses of cyanazine fed to rats, dogs, and cows are rapidly absorbed from the gastrointestinal tract. In a study on rats and dogs, much of the cyanazine ingested was eliminated from animals within 4 days. There is some tendency for cyanazine to accumulate in the brain, liver, kidney, muscle, and fat. Cows fed very low amounts of cyanazine eliminated up to 88% of

MATERIAL SAFETY DATA SHEET

Product Name: Genfarm Cyanazine 900 WDG Herbicide

This revision issued: September, 2010

Page: 5 of 6

the cyanazine in urine and faeces within 21 days. The concentration in cows' milk was very low, at 0.022 ppm.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Cyanazine	Conc≥25%: Xn; R22

Section 12 - Ecological Information

Effects on birds: Cyanazine is slightly to moderately toxic in birds. The oral LD₅₀ in mallards is greater than 2000 mg/kg, and in bobwhite quail is 400 mg/kg.

Effects on aquatic organisms: Cyanazine is slightly to moderately toxic to fish and aquatic invertebrates. The LC₅₀ (96-hour) for cyanazine in harlequin fish is 7.5 mg/L, and 18 mg/L in sheepshead minnow.

Effects on other organisms: Cyanazine is nontoxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: Cyanazine has a low to moderate persistence in soil. It quickly degrades in many soil types mostly due to the action of microbes. Cyanazine has a half-life of 2 to 4 weeks in an air-dried sandy clay loam, 7 to 10 weeks in a sandy loam soil, 10 to 14 weeks in a clay soil, and 9 weeks in a fresh sandy clay soil.

Breakdown in water: Cyanazine is stable to the chemical action of water (hydrolysis) and to the action of sunlight (photolysis).

Breakdown in vegetation: Cyanazine is absorbed by the roots and is translocated up the plant into the leaves. It works by inhibiting photosynthesis.

Section 13 - Disposal Considerations

Disposal: Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed.

Section 14 - Transport Information

ADG Code: 2763, TRIAZINE PESTICIDE, SOLID, TOXIC

Hazchem Code: 2X

Special Provisions: 61, 223, 274

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

Dangerous Goods Class: Class 6.1, Toxic Substances.

Packaging Group: III

Packaging Method: P002, IBC08

Class 6 Toxic Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids where the Flammable Liquid is nitromethane), 5.1 (Oxidising Agents where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides where the Toxic Substances are Fire Risk Substances), 8 (Corrosive Substances where the Toxic Substances are cyanides and the Corrosives are acids), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes, 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Toxic Gases), 3 (Flammable liquids, except where the flammable liquid is nitromethane), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents except where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides except where the Toxic Substances are Fire Risk Substances), 7 (Radioactive Substances), 8 (Corrosive Substances except where the Toxic Substances are cyanides and the Corrosives are acids), 9 (Miscellaneous Dangerous Goods)

MATERIAL SAFETY DATA SHEET

Product Name: Genfarm Cyanazine 900 WDG Herbicide

This revision issued: September, 2010

Page: 6 of 6

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Cyanazine, are mentioned in the SUSMP.

Section 16 - Other Information

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
AICS	Australian Inventory of Chemical Substances
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
SWA	Safe Work Australia, formerly ASCC and NOHSC
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

Copyright © Kilford & Kilford Pty Ltd, September, 2010.

<http://www.kilford.com.au/> Phone (02)9251 4532