

MATERIAL SAFETY DATA SHEET

Section 1 - Identification of Chemical Product and Company

Company: Spectra Chemicals and Commodities (Shanghai) Co.,Ltd.

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Product Name: Spectra Atrazine 900 WDG

Product Use: Broad spectrum herbicide for selective weed control in certain crops, and for total vegetation control at higher rates.

Creation Date: 25th, July 2006

Revision Date: 24th, July 2008

Section 2 - Hazards Identification

Hazard classification: Hazardous substance. Non-dangerous goods.

Risk phrases: R20/22 Harmful by inhalation and if swallowed.

R43 May cause sensitisation by skin contact.

R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed

Safety phrases: S20/21 When using do not eat or drink/smoke

S24/25 Avoid contact with skin/eyes

S29/35 Do not empty into drains/Dispose of material and container in a safe way

SUSDP Classification: S5

ADG Classification: Not a dangerous good

UN Number: None allocated

Section 3 - Composition/Information on Ingredients

Ingredients	CAS Number	Proportion
Atrazine	1912-24-9	900g/kg
Inert filler, dispersants		Balance

Section 4 - First Aid Measures

Skin contact: Remove contaminated clothing. Wash contaminated skin with soapy water. If skin irritation develops, get medical attention. Wash clothing thoroughly before re-use.

Eye contact: Rinse eye(s) with clean running water for 15 mins. Get medical attention.

Ingestion: Rinse mouth. Give water to drink if patient is conscious. DO NOT induce vomiting. If vomiting occurs ensure patient can breathe, then give water to drink. Get medical attention.

Advice to doctor: No specific antidote is known. Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable extinguishing media: Product is not flammable. Use media suitable for whatever else is burning.

Unsuitable extinguishing media:

Special hazards in fire: Product is not flammable. High temperature decomposition may release

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carbon dioxide, nitrogen oxides, and/or chlorine compounds.

Required special protective equipment for fire-fighters: Wear self contained breathing apparatus if in enclosed space.

Section 6 - Accidental Release Measures

Emergency procedures: Wear protective equipment to prevent skin and eyes being affected. Evacuate unprotected and unnecessary personnel from area of spill. If material is spilling from a container, attempt to retain as much as possible in the original package. Prevent spillage entering drains or watercourse.

Methods for containment & cleanup: Scoop up spilled material into suitable bins/containers. If possible, collect pure material first. This may be re-usable. Scoop Atrazine 900 and contaminated soil next. Take enough soil to ensure all Atrazine 900 is included. This material should be disposed of at a suitable landfill. Personal protective equipment and clothing should be washed with soapy water.

Section 7 - Handling and Storage

Handling: Keep away from food, drink, and animal feedstuff. KEEP OUT OF REACH OF CHILDREN. Wear suitable Personal protective equipment when handling and spraying.

Storage: Store in the original container in a dry, cool, ventilated, LOCKED area. DO NOT store in prolonged sunlight. DO NOT store with food, seed, or animal feedstuff.

Section 8 - Exposure Controls and Personal Protection

National exposure standards: TWA 5 mg/m³

Biological limit values: ADI is set at 0.005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day.

Engineering measures: Use assisted ventilation in enclosed spaces if needed, especially storage areas.

Personal protection equipment:

Eye/face protection: Goggles or glasses to AS 1366, AS/NZS1337

Hand/skin protection: Overalls, PVC gloves and apron, face shield

Respiratory protection: Should not be necessary under normal conditions. If spray mist may be encountered, a particulate filter to AS/NZS 1715 should be worn.

Section 9 - Physical and Chemical Properties

Appearance	Pale coloured granule
Odour	Faint.
pH	Slightly alkaline, but insignificant due to low solubility.
Melting/Freezing Point	176 °C (atrazine)
Solubility in Water	33 mg/L atrazine. Granules fully water dispersible.
Boiling Point/Range	Does not boil at normal pressure.
Specific Gravity (H2O=1)	
Vapour Pressure	3.85 x 10 ⁻²
Vapour Density	No data, irrelevant due to low VP.

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Flash Point N/A

Ignition Temperature N/A

Flammable Limits N/A

Explosion Properties N/A

Section 10 - Stability and Reactivity

Chemical stability: Product is stable, will not spontaneously react or polymerise.

Conditions to avoid: Moisture, High temperature.

Materials to avoid: Strong oxidizing agents.

Hazardous decomposition products: Could produce carbon monoxide, oxides of nitrogen and chlorine.

Hazardous reactions: Non likely.

Section 11 - Toxicological Information

Acute toxicity: The oral LD50 for Atrazine is 3090 mg/kg in rats, 1750 mg/kg in mice, 750 mg/kg in rabbits, and 1000 mg/kg in hamsters. The dermal LD50 in rabbits is 7500 mg/kg and greater than 3000 mg/kg in rats. The 1-hour inhalation LC50 is greater than 0.7 mg/L in rats. The 4-hour inhalation LC50 is 5.2 mg/L in rats.

Chronic toxicity: Some 40% of rats receiving oral doses of 20 mg/kg/day for 6 months died with signs of respiratory distress and paralysis of the limbs. Structural and chemical changes in the brain, heart, liver, lungs, kidney, ovaries, and endocrine organs were observed. Rats fed 5 or 25 mg/kg/day of Atrazine for 6 months exhibited growth retardation. In a 2-year study with dogs, 7.5 mg/kg/day caused decreased food intake and increased heart and liver weights. At 75 mg/kg/day, there were decreases in food intake and body weight gain, increased adrenal weight, lowered blood cell counts, and occasional tremors or stiffness in the rear limbs.

Fate in humans and animals: Atrazine is readily absorbed through the gastrointestinal tract. Of a single dose of 0.53 mg Atrazine administered to rats by gavage, 20% was excreted in the faeces within 72 hours. The other 80% was absorbed from the gastrointestinal tract into the bloodstream. After 72 hours, 65% was eliminated in the urine and 15% was retained in body tissues, mainly in the liver, kidneys, and lungs.

Possible routes of exposure: Inhalation of spray mist is the most likely cause of exposure. Granule dust is another.

Range of effects. Excessive exposure may affect human health as follows:

Skin contact: Reactions would be rare.

Eye contact: Dry granule material will cause irritation. Dispersions in water less so.

Inhalation/ingestion: Symptoms of poisoning include abdominal pain, diarrhoea and vomiting, eye irritation, irritation of mucous membranes, and skin reactions.

Delayed effects if any:

Reproductive effects: Dietary doses of Atrazine given to rats on days 3, 6 and 9 of gestation up to about 50 mg/kg/day caused no adverse reproductive effects.

Carcinogenic effects: Atrazine did not cause tumours when mice were given oral doses of 21.5 mg/kg/day from age 1 to 4 weeks, followed by dietary doses of 82 mg/kg for an additional 17 months. However, mammary tumours were observed in rats after lifetime administration of high doses of Atrazine. Thus, available data regarding Atrazine's carcinogenic potential are inconclusive.

Organ toxicity: Lethal doses of Atrazine in test animals have caused congestion and/or haemorrhaging to the lungs, kidneys, liver, spleen, brain, and heart. Long-term consumption of high levels of Atrazine has caused tremors, changes in organ weights, and damage to the liver and heart.

Relevant negative data:

Teratogenic effects: Atrazine does not appear to be teratogenic.

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Mutagenic effects: The evidence indicates that Atrazine is not mutagenic.

Section 12 - Ecological Information

Ecotoxicity:

Aquatic organisms: Very low toxicity to fish, crustaceans & micro-organisms. Highly toxic to most plants and algae.

Flora: Toxic to plants

Fauna: Low toxicity to birds, mammals, reptiles, etc.

Soil organisms: Low toxicity to worms, bacteria, insects. Toxic to soil algae.

Bees: Low toxicity.

Long term: Atrazine is a soil persistent herbicide that may have effects up to 2 years after application, depending on rate.

Ozone effects: None recorded.

Persistence/degradation: Atrazine is a relatively persistent herbicide. It has a half life of weeks to months, depending on soil bio-activity.

Mobility: Atrazine may leach, especially in light sandy soils.

Bioaccumulative potential: Unknown but probably low.

Section 13 - Disposal Considerations

Product: Whenever possible, product should be used for its intended purpose, even if reclaimed from spillage (reclaimed product must be uncontaminated).

Containers: Whenever possible, follow directions given on container. If not available, triple or pressure rinse plastic or metal containers before disposal. Recycle containers if possible (replace cap and return clean containers to recycler or designated collection point). Treat rinsings as for product above. 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 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

Sewage: Do not dispose of product or rinsings into sewage systems or septic tanks.

Section 14 - Transport Information

U.N. Number	None allocated
Proper Shipping Name	None allocated
DG Class	Not a dangerous good.
Hazchem Code	
Packing Group	
Special precautions	Do not store with foodstuffs.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are to be found in the public AICS Database.

This product is an Agricultural Chemical registered by the Agricultural Pesticides and Veterinary Medicines Authority.

It is Classified X_n (Harmful) by Australian Hazardous Substances Information System

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Section 16 - Other Information

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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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.

END OF MSDS **Spectra AG**