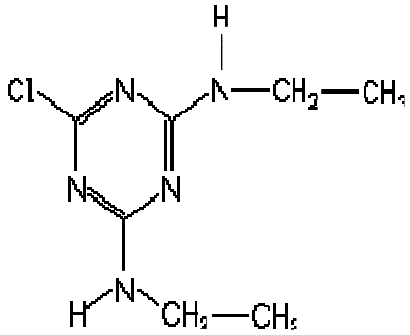
Hangzhou Tianlong Biotechnology Co., Ltd.
Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

MATERIAL SAFETY DATE SHEET

1. Chemical Product and Company Identification

Product Name: Simazine
Molecular Formula: $C_7H_{12}ClN_5$
Molecular Weight: 201.65
Structural Formula:



Chemical Name: 6-Chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine.
CAS No.: 122-34-9
Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD
Address: Room 1906, Fengqi Times Tower, No.338 Fengqi East Road, Hangzhou, China, 310020
Tel: 0086-571-87214516
Fax: 0086-571-87079476

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Simazine	122-34-9	98.0
Others ingredients		2.0

3. Hazards Identification

Flammable
Environmental hazardous: Harmful for environment.
Primary route of entry: Inhalation, absorption skinning contact.

4. First Aid Measures

Eyes: Wash out with plenty of water with the eyelid held wide open for at

least 15 minutes. Get medical attention.
Skin: Remove contaminated clothing. Wash away remainder with water and soap.
Ingestion: Wash out mouth with plenty of water. Get medical attention. Never give anything by mouth to an unconscious person.

5. Fire-Fighting Measures

Flammable Limits: N/A
Lower explosive limit (LEL): N/A
Upper explosive limited (UEL): N/A
Fire extinguishing media: Dry chemical, water spray, foam, carbon dioxide.
Special fire fighting procedures: Self-contained breathing apparatus and total protection required inenclosed areas.
Unusual fire and explosion hazards: Chloride compounds and nitrogen oxides.

6. Accidental Release Measures

Steps to be taken in case material is released or spilled:
Wear suitable protective clothing. Do not discharge into drains or the environment. Absorb remainder in sand or other inert material. Dispose of in an authorized waste collecting point.

7. Handling And Storage

Ventilation required.
Keep only in the original container. Keep in a cool, dry, well ventilated place away from direct sunlight.
Simazine is stable under normal storage conditions. Store in a dry place. Do not contaminate water, food or animal feeds by storage or disposal. Dispose of simazine according to local, State and Federal rules.

8. Exposure Controls/personal protection

Engineering controls: Ventilation required.
Work practices: Avoid contact with eyes, skin or clothes. Avoid breathing dust or spray mist. Wash with soap and water after handling simazine. Remove and wash clothing before reuse.

9. Physical And Chemical Properties

Appearance: White powder
Water Solubility: 5 mg/L @ 20℃
Solubility in Other Solvents: s. in methanol, chloroform, and diethyl ether; s.s. in pentane
Density : 1.302@20℃
Melting Point: 225-227℃
Vapor Pressure: 0.000810 mPa @ 20℃
Partition Coefficient: 1.9600

Adsorption Coefficient: 130

10. Stability and Reactivity

Conditions to avoid: Not subject to polymerization. Oxidizing agents, acids and alkali.

Incompatibility (materials to avoid): N/A

Stability: volatility - the tendency to become a vapor at relatively low temperature

Hazardous polymerization: Chloride compounds and nitrogen oxides.

11. Toxicological Information

Toxicity: (Rat): Oral LD_{50} 5000 mg/kg; Dermal > 5000 mg/kg.

Reproductive effects: No adverse effects on reproductive capacity or development were observed in a three-generation study of rats fed 5 mg/kg/day simazine. High rates of fetotoxicity and decreased birth weight were noted in the fetuses of pregnant rabbits fed 75 mg/kg/day. Reproductive effects are not likely in humans under normal circumstances.

Teratogenic effects: No dose-related teratogenic effects were observed when rabbits were given daily doses of 5, 75, or 200 mg/kg for days 7 through 19 of pregnancy. Chronic inhalation of a cumulative dose of 0.3 mg/L for 8 days in pregnant rats resulted in no treatment-related developmental abnormalities. Simazine does not appear to be teratogenic.

Mutagenic effects: Simazine has shown negative results in a variety of mutagenicity tests on bacterial cultures. Tests on human lung cell cultures have produced both positive and negative results. When injected into adult male fruitflies, simazine increased the frequency of sex-linked lethal mutations, but failed to do so when fed to larvae. Other tests for mutagenicity in fruitflies were negative. It is likely that simazine is either nonmutagenic or weakly mutagenic.

Carcinogenic effects: Simazine was not tumorigenic in mice at the maximum tolerated dose of 215 mg/kg/day over an 18-month period. In other studies, doses as low as 5 mg/kg/day produced excess tumors (thyroid and mammary) in female rats. Because of inconsistencies in the data, it is not possible to determine simazine's carcinogenic status.

Organ toxicity: Damage to the testes, kidneys, liver, and thyroid has been observed in test animals.

12. Ecological Information

Effects on birds: Simazine is practically nontoxic to birds. The reported LD50 values in mallard and Japanese quail are >4600 mg/kg and 1785 mg/kg, respectively. The acute dietary LD50 values in hens and pigeons are both greater than 5000 ppm. The 8-day dietary LC50 in bobwhite quail is >5260 ppm and in mallard ducks is >10,000 ppm.

Effects on aquatic organisms: Simazine is slightly to practically nontoxic to aquatic species. The 96-hour LC50 for simazine is >100 mg/L in rainbow trout, 100 mg/L (wettable powder) in bluegill sunfish, 0.100 mg/L in fathead minnows, as well as carp. It may be more toxic to Daphia and stoneflies. A 96-hour LC50 of >3.7 mg/L is reported in oysters .

Effects on other organisms: While many mamal s may be insensitive to simazine, sheep and cattle are especially sensitive. Simazine is nontoxic to bees. A soil LC50 in earthworms of >1000 mg/kg has been reported.

13. Disposal Considerations

Pesticide Disposal: Dispose of in a pesticide approved landfill or in a chemical incineratorequipped with scrubbers, In accordance with national and regional regulations.

14. Transport Information

Class/Danger Label:, 9.
Pack. Group:, III
UN No.:3077

15. Regulatory Information

Hazard symbol(s): Xn, N
Risk phrases : R40: Limited evidence of a carcinogenic effect.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases:S02: Keep out of the reach of children.
S13: Keep away from food, drink and animal feedingstuffs.
S20/21: When using do not eat, drink or smoke.
S24/25: Avoid contact with skin and eyes.
S36/37: Wear suitable protective clothing and gloves.
S60: This material and its container must be disposed of as hazardous waste.
S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. Other Information

This MSDS summarizes 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.