

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Environmental hazard. This material is toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment. CARCINOGEN. MINIMIZE EXPOSURE. Reproductive effector. Harmful compound, minimize exposure.	

Section I. Chemical Product and Company Identification	
Chemical Name	Atrazine
Catalog Number	A1650
Synonym	2-Chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine
Chemical Formula	C ₈ H ₁₄ ClN ₅
CAS Number	1912-24-9
Supplier	TCI America 9211 N. Harborsgate St. Portland OR 1-800-423-8616
In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients				
Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Atrazine	1912-24-9	Min. 97.0 (GC,T)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD ₅₀ (oral) 672 mg/kg Rat LC ₅₀ (inhalation) 700 mg/m ³ /4H Rat LD ₅₀ (intraperitoneal) 235 mg/kg

Section III. Hazards Identification	
Acute Health Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	CARCINOGENIC EFFECTS : Rat -TDLo - ROUTE: Oral; DOSE: 36.5 gm/kg/2Ycontinuous TOXIC EFFECTS: Tumorigenic - Carcinogenic by RTECS criteria Tumorigenic Effects - Other reproductive system tumors Rat-TDLo - ROUTE: Oral; DOSE: 33775mg/kg/2Y continuous. TOXIC EFFECTS: Tumorigenic - Carcinogenic by RTECS criteria Blood - Leukemia Tumorigenic Effects - Uterine tumors Mouse-TDLo - ROUTE: Oral; DOSE: 9000 mg/kg/78W intermittent TOXIC EFFECTS: Tumorigenic - Equivocal tumorigenic agent by RTECS criteria Lung, Thorax, or Respiration - Tumors Liver - Tumors MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY: Mouse-TDLo - ROUTE: Oral; DOSE: 29 mg/kg; DURATION: female 14-21D of pregnancyand1-21D after birth TOXIC EFFECTS: Specific Developmental Abnormalities -Central nervous system Specific Developmental Abnormalities - Endocrine system Effects on Newborn - Behavioral Rat-TDLo - ROUTE: Intraperitoneal; DOSE: 1028 mg/kg; DURATION: male 60D prior to mating TOXIC EFFECTS: Paternal Effects - Spermatogenesis (including genetic material, sperm morphology, motility, and count) Paternal Effects - Testes, epididymis, sperm duct Paternal Effects - Prostate, seminal vessicle, Cowper's gland, accessory glands RAT-TDLo - ROUTE: Oral; DOSE: 1000 mg/kg; DURATION: female 6-10D of pregnancy TOXIC EFFECTS: Effects on Fertility - Litter size (e.g., # fetuses per litter, measured before birth) Effects on Newborn - Viability index (e.g., # alive at day 4 per # born alive) Effects on Newborn - Growth statistics (e.g., reduced weight gain) Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂), halogenated compounds. WARNING: Highly toxic HCl gas is produced during combustion.		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		


Section VI. Accidental Release Measures

Spill Cleanup Instructions	Environmentally hazardous material. Carcinogenic material. Harmful material. Use a shovel to put the material into a convenient waste disposal container. Consult federal, state, and/or local authorities for assistance on disposal.
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Section VII. Handling and Storage

Handling and Storage Information	ENVIRONMENTAL HAZARD. CARCINOGEN. HARMFUL. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. Do not breathe dust.
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Section VIII. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent. 
Exposure Limits	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (White crystalline powder)	Solubility	Very soluble in: Methanol, Chloroform, Ethyl acetate. Insoluble in: Water.
Specific Gravity	1.2 (water=1)		
Molecular Weight	215.68	Partition Coefficient	LOG P _{ow} 2.34
Boiling Point	Not available.	Vapor Pressure	3.9·10 ⁻⁶ Pa/25° C
Melting Point	175°C (347°F)	Vapor Density	7.4 (Air = 1)
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Odorless.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, strong acids, strong alkalis (bases).

Section XI. Toxicological Information

RTECS Number	XY5600000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD ₅₀ (oral) 672 mg/kg Rat LC ₅₀ (inhalation) 700 mg/m ³ /4H Rat LD ₅₀ (intraperitoneal) 235 mg/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Rat -TDLo - ROUTE: Oral; DOSE: 36.5 gm/kg/2Ycontinuous TOXIC EFFECTS: Tumorigenic - Carcinogenic by RTECS criteria Tumorigenic Effects - Other reproductive system tumors Rat-TDLo - ROUTE: Oral; DOSE: 33775mg/kg/2Y continuous. TOXIC EFFECTS: Tumorigenic - Carcinogenic by RTECS criteria Blood - Leukemia Tumorigenic Effects - Uterine tumors Mouse-TDLo - ROUTE: Oral; DOSE: 9000 mg/kg/78W intermittent TOXIC EFFECTS: Tumorigenic - Equivocal tumorigenic agent by RTECS criteria Lung, Thorax, or Respiration - Tumors Liver - Tumors MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY: Mouse-TDLo - ROUTE: Oral; DOSE: 29 mg/kg; DURATION: female 14-21D of pregnancyand1-21D after birth TOXIC EFFECTS: Specific Developmental Abnormalities -Central nervous system Specific Developmental Abnormalities - Endocrine system Effects on Newborn - Behavioral Rat-TDLo - ROUTE: Intraperitoneal; DOSE: 1028 mg/kg; DURATION: male 60D prior to mating TOXIC EFFECTS: Paternal Effects - Spermatogenesis (including genetic material, sperm morphology, motility, and count) Paternal Effects - Testes, epididymis, sperm duct Paternal Effects - Prostate, seminal vessicle, Cowper's gland, accessory glands RAT-TDLo - ROUTE: Oral; DOSE: 1000 mg/kg; DURATION: female 6-10D of pregnancy TOXIC EFFECTS: Effects on Fertility - Litter size (e.g., # fetuses per litter, measured before birth) Effects on Newborn - Viability index (e.g., # alive at day 4 per # born alive) Effects on Newborn - Growth statistics (e.g., reduced weight gain) Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
Acute Toxic Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.


Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Not available.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.
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Section XIV. Transport Information

DOT Classification	CLASS 9: Miscellaneous hazardous material.
PIN Number	UN: 3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	On DSL.
EINECS Number (EEC)	217-617-8
EEC Risk Statements	R58- May cause long-term adverse effects in the environment. R45- May cause cancer. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
Japanese Regulatory Data	ENCS No. 5-3851

Section XVI. Other Information

Version 1.0
Validated on 3/20/2009.
Printed 3/20/2009.

Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.