



Right to Know Hazardous Substance Fact Sheet

Common Name: **ATRAZINE**

Synonym: 6-Chloro-N-Ethyl-N'-(Methylethyl)-1,3,5-Triazine-2,4-Diamine

Chemical Name: 1,3,5-Triazine, 2,4-Diamine, 6-Chloro-N-Ethyl-N'-(1-Methylethyl)-

Date: June 1998 Revision: June 2007

CAS Number: 1912-24-9

RTK Substance Number: 0171

DOT Number: UN 2763 (Solid)

UN 2998 (Liquid)

Description and Use

Atrazine is a white crystalline (sand-like) solid or powder which is often mixed with a liquid "carrier." It is used as a herbicide (weed killer) and a plant growth regulator.

EMERGENCY RESPONDERS >>>> SEE BACK PAGE

Hazard Summary

Hazard Rating	NJDOH	NFPA
HEALTH	3	-
FLAMMABILITY	0	-
REACTIVITY	1	-
MAY BE FLAMMABLE OR COMBUSTIBLE POISONOUS GASES ARE PRODUCED IN FIRE CONTAINERS MAY EXPLODE IN FIRE		

Hazard Rating Key: 0=minimal; 1=slight; 2=moderate; 3=serious; 4=severe

Reason for Citation

- ▶ **Atrazine** is on the Right to Know Hazardous Substance List because it is cited by ACGIH, DOT, NIOSH, DEP, IARC, IRIS and EPA.

- ▶ **Atrazine** can affect you when inhaled and by passing through your skin.
- ▶ Contact can irritate the skin and eyes.
- ▶ **Atrazine** may cause a skin allergy.
- ▶ Exposure to very high levels may affect the nervous system.
- ▶ **Atrazine** is often mixed in a liquid "carrier" which may be flammable or combustible.

SEE GLOSSARY ON PAGE 5.

FIRST AID

Eye Contact

- ▶ Immediately flush with large amounts of cool water for at least 15 minutes, occasionally lifting upper and lower lids. Remove contact lenses, if worn, while rinsing. Medical attention is necessary.

Skin Contact

- ▶ Remove contaminated clothing. Wash contaminated skin with soap and water.

Breathing

- ▶ Remove the person from exposure.
- ▶ Transfer promptly to a medical facility.

EMERGENCY NUMBERS

Poison Control: 1-800-222-1222

CHEMTREC: 1-800-424-9300

NJDEP Hotline: 1-877-927-6337

National Response Center: 1-800-424-8802

Workplace Exposure Limits

NIOSH: The recommended airborne exposure limit (REL) is **5 mg/m³** averaged over a 10-hour workshift.

ACGIH: The threshold limit value (TLV) is **5 mg/m³** averaged over an 8-hour workshift.

- ▶ The above exposure limits are for air levels only. When skin contact also occurs, you may be overexposed, even though air levels are less than the limits listed above.

Determining Your Exposure

- ▶ Read the product manufacturer’s Material Safety Data Sheet (MSDS) and the label to determine product ingredients and important safety and health information about the product mixture.
- ▶ For each individual hazardous ingredient, read the New Jersey Department of Health Hazardous Substance Fact Sheet, available on the RTK website (www.nj.gov/health/eoh/rtkweb) or in your facility’s RTK Central File or Hazard Communication Standard file.
- ▶ You have a right to this information under the New Jersey Worker and Community Right to Know Act, the Public Employees Occupational Safety and Health (PEOSH) Act if you are a public worker in New Jersey, and under the federal Occupational Safety and Health Act (OSHA) if you are a private worker.
- ▶ The New Jersey Right to Know Act requires most employers to label chemicals in the workplace and requires public employers to provide their employees with information concerning chemical hazards and controls. The federal OSHA Hazard Communication Standard (29 CFR 1910.1200) requires private employers to provide similar information and training to their employees.

This Fact Sheet is a summary of available information regarding the health hazards that may result from exposure. Duration of exposure, concentration of the substance and other factors will affect your susceptibility to any of the potential effects described below.

Health Hazard Information

Acute Health Effects

The following acute (short-term) health effects may occur immediately or shortly after exposure to **Atrazine**:

- ▶ Contact can irritate the skin and eyes.

Chronic Health Effects

The following chronic (long-term) health effects can occur at some time after exposure to **Atrazine** and can last for months or years:

Cancer Hazard

- ▶ While **Atrazine** has been tested, it is not classifiable as to its potential to cause cancer.

Reproductive Hazard

- ▶ There is limited evidence that **Atrazine** may damage the developing fetus.

Other Effects

- ▶ **Atrazine** may cause a skin allergy. If allergy develops, very low future exposure can cause itching and a skin rash.
- ▶ Exposure to very high levels may affect the nervous system.

Medical

Medical Testing

If symptoms develop or overexposure is suspected, the following are recommended:

- ▶ Evaluation by a qualified allergist will help diagnose skin allergy.
- ▶ Exam of the nervous system

Any evaluation should include a careful history of past and present symptoms with an exam. Medical tests that look for damage already done are not a substitute for controlling exposure.

Request copies of your medical testing. You have a legal right to this information under the OSHA Access to Employee Exposure and Medical Records Standard (29 CFR 1910.1020).

Workplace Controls and Practices

Very toxic chemicals, or those that are reproductive hazards or sensitizers, require **expert advice** on control measures if a less toxic chemical cannot be substituted. Control measures include: (1) enclosing chemical processes for severely irritating and corrosive chemicals, (2) using local exhaust ventilation for chemicals that may be harmful with a single exposure, and (3) using general ventilation to control exposures to skin and eye irritants. For further information on workplace controls, consult the NIOSH document on *Control Banding* at www.cdc.gov/niosh/topics/ctrlbanding/.

The following work practices are also recommended:

- ▶ Label process containers.
- ▶ Provide employees with information and training concerning their hazards.
- ▶ Monitor airborne chemical concentrations.
- ▶ Use engineering controls if concentrations exceed recommended exposure levels.
- ▶ Provide eye wash fountains and emergency showers.
- ▶ Wash or shower if skin comes in contact with a hazardous material.
- ▶ Always wash at the end of the workshift.
- ▶ Change into clean clothing if clothing becomes contaminated.
- ▶ Do not take contaminated clothing home.
- ▶ Special training is required to wash contaminated clothing.
- ▶ Do not eat, smoke, or drink in areas where chemicals are being handled, processed or stored.
- ▶ Wash hands carefully before eating, smoking, drinking, applying cosmetics or using the toilet.

Personal Protective Equipment

The OSHA Personal Protective Equipment Standard (29 CFR 1910.132) requires employers to determine the appropriate personal protective equipment for each hazard and to train employees on how and when to use protective equipment.

The following recommendations are only guidelines and may not apply to every situation.

Gloves and Clothing

- ▶ Avoid skin contact with **Atrazine**. Wear personal protective equipment made from material which can not be permeated and/or degraded by this substance. Safety equipment suppliers/manufacturers can provide recommendations on the most protective glove/clothing material for your operation.
- ▶ All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.

Eye Protection

- ▶ Wear eye protection with side shields or goggles.
- ▶ Wear a face shield along with goggles when working with corrosive, highly irritating or toxic substances.

Respiratory Protection

Improper use of respirators is dangerous. Such equipment should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

- ▶ For field applications check with your supervisor and your safety equipment supplier regarding the appropriate respiratory equipment.
- ▶ Where the potential exists for exposure over **5 mg/m³**, use a NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.

Fire Hazards

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA Fire Brigades Standard (29 CFR 1910.156).

- ▶ **Atrazine** is a noncombustible solid. However, it may be mixed with flammable or combustible "carrier" liquids.
- ▶ Use dry chemical, CO₂, water spray or a foaming agent.
- ▶ POISONOUS GASES ARE PRODUCED IN FIRE, including *Hydrogen Chloride* and *Nitrogen Oxides*.
- ▶ CONTAINERS MAY EXPLODE IN FIRE.
- ▶ Use water spray to keep fire-exposed containers cool.

Spills and Emergencies

If employees are required to clean-up spills, they must be properly trained and equipped. The OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) may apply.

If **Atrazine** is spilled or leaked, take the following steps:

- ▶ Evacuate personnel and secure and control entrance to the area.
- ▶ Eliminate all ignition sources.
- ▶ Dampen powdered material with water and collect in the most convenient and safe manner and deposit in sealed containers.
- ▶ Absorb liquids in vermiculite, dry sand, earth, or a similar material and deposit in sealed containers.
- ▶ Ventilate and wash area after clean-up is complete.
- ▶ DO NOT wash into sewer.
- ▶ It may be necessary to contain and dispose of **Atrazine** as a HAZARDOUS WASTE. Contact your state Department of Environmental Protection (DEP) or your regional office of the federal Environmental Protection Agency (EPA) for specific recommendations.

Handling and Storage

Prior to working with **Atrazine** you should be trained on its proper handling and storage.

- ▶ **Atrazine** is not compatible with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE).
- ▶ Store in tightly closed containers in a cool, well-ventilated area.

Occupational Health Information Resources

The New Jersey Department of Health offers multiple services in occupational health. These include: Right to Know Information Resources, Public Presentations, General References, Industrial Hygiene Information, Surveys and Investigations, and Medical Evaluation.

For more information, please contact:

New Jersey Department of Health
Right to Know
PO Box 368
Trenton, NJ 08625-0368
Phone: 609-984-2202
Fax: 609-984-7407
E-mail: rtk@doh.state.nj.us
Web address: <http://www.nj.gov/health/eoh/rtkweb>

***The Right to Know Hazardous Substance Fact Sheets
are not intended to be copied and sold
for commercial purposes.***

GLOSSARY

ACGIH is the American Conference of Governmental Industrial Hygienists. They publish guidelines called Threshold Limit Values (TLVs) for exposure to workplace chemicals.

Boiling point is the temperature at which a substance can change its physical state from a liquid to a gas.

A **carcinogen** is a substance that causes cancer.

The **CAS number** is assigned by the Chemical Abstracts Service to identify a specific chemical.

CFR is the Code of Federal Regulations, which are the regulations of the United States government.

A **combustible** substance is a solid, liquid or gas that will burn.

A **corrosive** substance is a gas, liquid or solid that causes destruction of human skin or severe corrosion of containers.

DEP is the New Jersey Department of Environmental Protection.

DOT is the Department of Transportation, the federal agency that regulates the transportation of chemicals.

EPA is the Environmental Protection Agency, the federal agency responsible for regulating environmental hazards.

A **fetus** is an unborn human or animal.

A **flammable** substance is a solid, liquid, vapor or gas that will ignite easily and burn rapidly.

The **flash point** is the temperature at which a liquid or solid gives off vapor that can form a flammable mixture with air.

IARC is the International Agency for Research on Cancer, a scientific group.

Ionization Potential is the amount of energy needed to remove an electron from an atom or molecule. It is measured in electron volts.

IRIS is the Integrated Risk Information System database of the federal EPA that classifies chemicals according to their cancer-causing potential.

LEL or **Lower Explosive Limit** is the lowest concentration in air below which there is not enough fuel (gas or vapor) to continue an explosion.

mg/m³ means milligrams of a chemical in a cubic meter of air. It is a measure of concentration (weight/volume).

A **mutagen** is a substance that causes mutations. A **mutation** is a change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

NAERG is the North American Emergency Response Guidebook. It is a guide for emergency responders for transportation emergencies involving hazardous substances.

NFPA is the National Fire Protection Association. It classifies substances according to their fire and explosion hazard.

NIOSH is the National Institute for Occupational Safety and Health. It tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes standards to OSHA.

NTP is the National Toxicology Program which tests chemicals and reviews evidence for cancer.

OSHA is the federal Occupational Safety and Health Administration, which adopts and enforces health and safety standards.

PEOSHA is the New Jersey Public Employees Occupational Safety and Health Act. PEOSH adopts and enforces health and safety standards in public workplaces.

Permeated is the movement of chemicals through protective materials.

PIH is a DOT designation for chemicals which are Poison Inhalation Hazards.

ppm means parts of a substance per million parts of air. It is a measure of concentration by volume in air.

A **reactive** substance is a solid, liquid or gas that releases energy under certain conditions.

STEL is a Short Term Exposure Limit which is usually a 15-minute exposure that should not be exceeded at any time during a work day.

A **teratogen** is a substance that causes birth defects by damaging the fetus.

UEL or **Upper Explosive Limit** is the highest concentration in air above which there is too much fuel (gas or vapor) to begin a reaction or explosion.

Vapor Density is the ratio of the weight of a given volume of one gas to the weight of another (usually *Hydrogen*), at the same temperature and pressure.

The **vapor pressure** is a measure of how readily a liquid or a solid mixes with air at its surface. A higher vapor pressure indicates a higher concentration of the substance in air and therefore increases the likelihood of breathing it in.

Common Name: **ATRAZINE**

Synonyms: AAtrex®, Gesaprim®, Vectal

CAS No: 1912-24-9

 Molecular Formula: C₈H₁₄ClN₅

RTK Substance No: 0171

Description: White, crystalline solid which is often mixed with a liquid (carrier).

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 0 - Fire 1 - Reactivity DOT#: UN 2763 (Solid) UN 2998 (Liquid) ERG Guide #: 151 Hazard Class: 6.1 (Poison)	- Atrazine is a noncombustible solid. However, it may be mixed with flammable or combustible "carrier" liquids. - Use dry chemical, CO ₂ , water spray or a foaming agent. - POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Chloride</i> and <i>Nitrogen Oxides</i> . - CONTAINERS MAY EXPLODE IN FIRE	- Incompatible with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE).

SPILLS/LEAKS

Isolation Distance: 50 meters for liquids (150 feet)
25 meters for solids (75 feet)

- Dampen solid spills with water before collection.
- Absorb liquids in vermiculite, dry sand, earth, or a similar material and deposit in sealed containers.
- DO NOT wash into sewer.
- Hazardous to plants, soil organisms and aquatic organisms.

PHYSICAL PROPERTIES

Odor Threshold: No information
Flash Point: Noncombustible
LEL: No information
UEL: No information
Vapor Density: No information
Vapor Pressure: 0.000003 mm Hg at 68°F (20°C)
Water Solubility: Slightly soluble
Boiling Point: Decomposes
Ionization Potential: No information

EXPOSURE LIMITS

OSHA: N/A
NIOSH: 5 mg/m³ 10-hr TWA
ACGIH: 5 mg/m³ 8-hr TWA
IDLH LEVEL: N/A

PROTECTIVE EQUIPMENT

Gloves: No information
Coverall: No information
Boot: No information
Respirator: Supplied air

HEALTH EFFECTS

Eyes: Irritant
Skin: Irritant
Acute: Skin and eye irritation
Chronic: Cancer - tested (Not Classifiable). Skin allergy, may affect the nervous system.

FIRST AID AND DECONTAMINATION

- Flush eyes with large amounts of water for at least 15 minutes.
- Remove contact lenses, if worn, while rinsing.
- Remove contaminated clothing. Wash contaminated skin with soap and water.
- Remove the person from exposure.
- Transfer to a medical facility.