



Right to Know Hazardous Substance Fact Sheet

Common Name: **PHENYLMERCURIC ACETATE**

Synonyms: Acetoxyphenylmercury; PMA

Chemical Name: Mercury, (Acetato-.kappa.O)Phenyl-

Date: February 2000 Revision: October 2008

CAS Number: 62-38-4

RTK Substance Number: 1502

DOT Number: UN 1674

Description and Use

Phenylmercuric Acetate is an odorless, white to yellow-white, crystalline (sand-like) powder. It is used as a herbicide, antiseptic, catalyst, fungicide, and preservative for latex paints.

Reasons for Citation

- ▶ **Phenylmercuric Acetate** is on the Right to Know Hazardous Substance List because it is cited by OSHA, ACGIH, DOT, NIOSH, DEP, IARC, IRIS, NFPA and EPA.
- ▶ This chemical is on the Special Health Hazard Substance List.

[SEE GLOSSARY ON PAGE 5.](#)

FIRST AID

Eye Contact

- ▶ Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids. Remove contact lenses, if worn, while flushing. Seek medical attention.

Skin Contact

- ▶ Quickly remove contaminated clothing. Immediately wash contaminated skin with large amounts of water.

Inhalation

- ▶ Remove the person from exposure
- ▶ Begin rescue breathing (using universal precautions) if breathing has stopped and CPR if heart action has stopped.
- ▶ Transfer promptly to a medical facility.
- ▶ Medical observation is recommended for 24 to 48 hours after overexposure, as pulmonary edema may be delayed.

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

EMERGENCY RESPONDERS >>>> SEE PAGE 6

Hazard Summary

Hazard Rating	NJDHSS	NFPA
HEALTH	-	3
FLAMMABILITY	-	1 (Dry) 2 (Solution)
REACTIVITY	-	0
CARCINOGEN AND TERATOGEN COMBUSTIBLE SOLID POISONOUS GASES ARE PRODUCED IN FIRE		

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

- ▶ **Phenylmercuric Acetate** can affect you when inhaled and by passing through the skin.
- ▶ **Phenylmercuric Acetate** should be handled as a CARCINOGEN and may be a TERATOGEN. HANDLE WITH EXTREME CAUTION.
- ▶ Contact can severely irritate and burn the skin and eyes with possible eye damage.
- ▶ Inhaling **Phenylmercuric Acetate** can irritate the nose and throat.
- ▶ Inhaling **Phenylmercuric Acetate** can irritate the lungs. Higher exposures may cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency.
- ▶ Repeated contact can cause a skin allergy and make the skin turn gray.
- ▶ Exposure can cause metallic taste in the mouth, nausea, vomiting and abdominal pain.
- ▶ Repeated exposure can cause *Mercury* poisoning with tremors, personality changes, trouble remembering and concentrating, and brain damage.
- ▶ **Phenylmercuric Acetate** may damage the kidneys.
- ▶ **Dry Phenylmercuric Acetate** is a COMBUSTIBLE SOLID, but it may be dissolved in a FLAMMABLE *organic solution*.

Workplace Exposure Limits

The following exposure limits are for *aryl Mercury compounds* (measured as *Mercury*):

NIOSH: The recommended airborne exposure limit (REL) is **0.1 mg/m³**, which should not be exceeded at any time.

ACGIH: The threshold limit value (TLV) is **0.1 mg/m³**, averaged over an 8-hour workshift.

(Continued on next page)

The following exposure limits are for *Mercury vapor*:

OSHA: The legal airborne permissible exposure limit (PEL) is **0.1 mg/m³** averaged over an 8-hour workshift.

NIOSH: The recommended airborne exposure limit (REL) is **0.05 mg/m³** averaged over a 10-hour workshift.

ACGIH: The threshold limit value (TLV) is **0.025 mg/m³** averaged over an 8-hour workshift.

- ▶ **Phenylmercuric Acetate** may be a CARCINOGEN and TERATOGEN in humans. There may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level.
- ▶ 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 and Senior Services Hazardous Substance Fact Sheet, available on the RTK Program 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) and the PEOSH Hazard Communication Standard (N.J.A.C. 12:100-7) require 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 **Phenylmercuric Acetate**:

- ▶ Contact can severely irritate and burn the skin and eyes with possible eye damage.
- ▶ Inhaling **Phenylmercuric Acetate** can irritate the nose and throat causing coughing and wheezing.
- ▶ Inhaling **Phenylmercuric Acetate** can irritate the lungs causing coughing and/or shortness of breath. Higher exposures may cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency, with severe shortness of breath.
- ▶ Exposure can cause metallic taste in the mouth, nausea, vomiting and abdominal pain.

Chronic Health Effects

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

Cancer Hazard

- ▶ **Phenylmercuric Acetate** may be a CARCINOGEN in humans. There is evidence that *Methylmercury compounds* have been shown to cause kidney cancer in animals.
- ▶ Many scientists believe there is no safe level of exposure to a carcinogen.

Reproductive Hazard

- ▶ **Phenylmercuric Acetate** may be a TERATOGEN in humans since it is a teratogen in animals.

Other Effects

- ▶ **Phenylmercuric Acetate** may cause a skin allergy. If allergy develops, very low future exposure can cause itching and a skin rash.
- ▶ Repeated contact can cause the skin to turn gray, brown staining in the eyes, and may affect peripheral vision (ability to see to the sides).
- ▶ Repeated exposure or a very high single exposure can cause *Mercury poisoning*. Symptoms include tremors (shaking), trouble remembering and concentrating, increased salivation, loss of appetite and weight, and changes in mood and personality. These can be severe and cause hallucinations and psychosis.
- ▶ **Phenylmercuric Acetate** may damage the kidneys.
- ▶ Long-term exposure can cause delayed, permanent brain damage and death.

Medical

Medical Testing

For frequent or potentially high exposure (half the TLV or greater, or significant skin contact) the following are recommended before beginning work and at regular times after that:

- ▶ Exam of the nervous system (including handwriting test to detect early hand tremor)
- ▶ Urine *Mercury* level (should be less than **0.02 mg/liter**)
- ▶ Kidney function tests

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

- ▶ Lung function tests
- ▶ Exam of the eyes and vision
- ▶ Evaluation by a qualified allergist can help diagnose skin allergy.

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).

Mixed Exposures

- ▶ Smoking can cause heart disease, lung cancer, emphysema, and other respiratory problems. It may worsen respiratory conditions caused by chemical exposure. Even if you have smoked for a long time, stopping now will reduce your risk of developing health problems.
- ▶ Creams to whiten or bleach skin may contain *Mercury*. If you use them, you may be at increased risk of *Mercury* poisoning. A high fish diet, especially of marine predatory fish (fish-eating fish), also may increase your blood *Mercury* levels.

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 hazard information and training.
- ▶ 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.
- ▶ Get special training 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.

In addition, the following may be useful or required:

- ▶ For *dry Phenylmercuric Acetate* use a vacuum or a wet method to reduce dust during clean-up. DO NOT DRY SWEEP.
- ▶ For clean-up, use a specialized charcoal-filtered vacuum to avoid generating *Mercury vapor*. Do not disturb spilled material.
- ▶ Before entering a confined space where **Phenylmercuric Acetate** in *organic solution* may be present, check to make sure that an explosive concentration does not exist.

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 **Phenylmercuric Acetate**. Wear personal protective equipment made from material that can not be permeated or degraded by this substance. Safety equipment suppliers and manufacturers can provide recommendations on the most protective glove and clothing material for your operation.
- ▶ Safety equipment manufacturers recommend Butyl, Nitrile, Neoprene, Natural Rubber, Polyvinyl Chloride, Silver Shield®/4H® and Viton as glove material for *Mercury*, and Tychem® SL, CPF 3, F, BR, LV, Responder® and TK, or the equivalent, as protective materials for *Mercury*.
- ▶ All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.

Eye Protection

- ▶ For *dry Phenylmercuric Acetate* wear eye protection with side shields or goggles.
- ▶ Wear indirect-vent, impact and splash resistant goggles when working with liquids.
- ▶ Wear a face shield along with goggles when working with corrosive, highly irritating or toxic substances.
- ▶ Do not wear contact lenses when working with this substance.

Respiratory Protection

Improper use of respirators is dangerous. Respirators should only be used if the employer has implemented 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 to *Mercury vapor* over **0.05 mg/m³**, use a NIOSH approved half-mask respirator with cartridges specific for *Mercury vapor*. These cartridges have end of service life indicators (ESLI) which visually indicate when filters must be changed.
- ▶ If while wearing a filter or cartridge respirator you can smell, taste, or otherwise detect **Phenylmercuric Acetate**, or if while wearing particulate filters abnormal resistance to breathing is experienced, or eye irritation occurs while wearing a full facepiece respirator, leave the area immediately. Check to make sure the respirator-to-face seal is still good. If it is, replace the filter or cartridge. If the seal is no longer good, you may need a new respirator.
- ▶ Be sure to consider all potential exposures in your workplace. You may need a combination of filters, prefilters or cartridges to protect against different forms of a chemical (such as vapor and mist) or against a mixture of chemicals.
- ▶ Where the potential exists for exposure over **0.5 mg/m³** (as *Mercury vapor*), 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.
- ▶ Exposure to **10 mg/m³** (as *Mercury vapor*) is immediately dangerous to life and health. If the possibility of exposure above **10 mg/m³** (as *Mercury vapor*) exists, use a NIOSH approved self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode.

- ▶ Absorb liquids in vermiculite, dry sand, earth, or a similar material and place into sealed containers.
- ▶ Moisten spilled dry material first or use a vacuum specific for *Mercury* for clean-up and place into sealed containers.
- ▶ Ventilate and wash area after clean-up is complete.
- ▶ Keep **Phenylmercuric Acetate** in *organic solution* out of confined spaces, such as sewers, because of the possibility of an explosion.
- ▶ DO NOT wash into sewer.
- ▶ It may be necessary to contain and dispose of **Phenylmercuric Acetate** 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 **Phenylmercuric Acetate** you should be trained on its proper handling and storage.

- ▶ **Phenylmercuric Acetate** is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); SULFUR; AMMONIA; REDUCING AGENTS (such as LITHIUM, SODIUM, ALUMINUM and their HYDRIDES); 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 away from COMBUSTIBLES.
- ▶ Sources of ignition, such as smoking and open flames, are prohibited where **Phenylmercuric Acetate** is used, handled, or stored in a manner that could create a potential fire or explosion hazard.

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).

- ▶ **Dry Phenylmercuric Acetate** is a COMBUSTIBLE SOLID, but it may be dissolved in a FLAMMABLE *organic solution*.
- ▶ Use dry chemical, CO₂, water spray or foam as extinguishing agents.
- ▶ Water may not be effective in fighting fires involving **Phenylmercuric Acetate** in an *organic solution*.
- ▶ POISONOUS GASES ARE PRODUCED IN FIRE, including *Mercury Oxides*.
- ▶ 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 **Phenylmercuric Acetate** is spilled or leaked, take the following steps:

- ▶ Evacuate personnel and secure and control entrance to the area.
- ▶ Eliminate all ignition sources.

Occupational Health Information Resources

The New Jersey Department of Health and Senior Services, Occupational Health Service, offers multiple services in occupational health. These services include providing informational resources, educational materials, public presentations, and industrial hygiene and medical investigations and evaluations.

For more information, please contact:

New Jersey Department of Health & Senior Services
 Right to Know Program
 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.

Acute Exposure Guideline Levels (AEGLs) are established by the EPA. They describe the risk to humans resulting from once-in-a-lifetime, or rare, exposure to airborne 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 unique, identifying number, assigned by the Chemical Abstracts Service, to 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.

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

Emergency Response Planning Guideline (ERPG) values provide estimates of concentration ranges where one reasonably might anticipate observing adverse effects.

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 on human health effects that may result from exposure to various chemicals, maintained by federal EPA.

LEL or Lower Explosive Limit, is the lowest concentration of a combustible substance (gas or vapor) in the air capable of continuing 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.

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, which adopts and enforces health and safety standards in public workplaces.

Permeated is the movement of chemicals through protective materials.

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

Protective Action Criteria (PAC) are values established by the Department of Energy and are based on AEGLs and ERPGs. They are used for emergency planning of chemical release events.

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 force exerted by the vapor in equilibrium with the solid or liquid phase of the same substance. The higher the vapor pressure the higher concentration of the substance in air.



Common Name: **PHENYLMERCURIC ACETATE**

Synonyms: Acetoxyphenylmercury; PMA

CAS No: 62-38-4

Molecular Formula: C₈H₈HgO₂

RTK Substance No: 1502

Description: Odorless, white to yellow-white, crystalline powder

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 1 (Dry) - Fire 2 (Solution) - Fire 0 - Reactivity DOT#: UN 1674 ERG Guide #: 151 Hazard Class: 6.1 (Poison)	<p><i>Dry Phenylmercuric Acetate</i> is a COMBUSTIBLE SOLID, but it may be dissolved in a FLAMMABLE <i>organic solution</i>.</p> <p>Use dry chemical, CO₂, water spray or foam as extinguishing agents.</p> <p>Water may not be effective in fighting fires involving Phenylmercuric Acetate in an <i>organic solution</i>.</p> <p>POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Mercury Oxides</i>.</p> <p>Use water spray to keep fire-exposed containers cool.</p>	<p>Phenylmercuric Acetate is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); SULFUR; AMMONIA; REDUCING AGENTS (such as LITHIUM, SODIUM, ALUMINUM and their HYDRIDES); STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); and STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE).</p>

SPILL/LEAKS

Isolation Distance:
 Small Spill: 30 meters (100 feet)
 Large Spill: 60 meters (200 feet)
 Fire: 800 meters (1/2 mile)

Absorb liquids in vermiculite, dry sand, earth, or a similar material and place into sealed containers.

Moisten spilled dry material first or use a vacuum specific for *Mercury* for clean-up and place into sealed containers.

Keep **Phenylmercuric Acetate** in *organic solution* out of confined spaces, such as sewers, because of the possibility of an explosion.

DO NOT wash into sewer.

Phenylmercuric Acetate is very toxic to aquatic organisms and may be hazardous to the environment.

PHYSICAL PROPERTIES

Odor Threshold: Odorless
Flash Point: >100°F (38°C)
Vapor Density: 11.6 (air = 1)
Vapor Pressure: 6 x 10⁻⁶ mm Hg at 68°F (20°C)
Specific Gravity: 0.24 (water = 1)
Water Solubility: Soluble
Melting Point: 300°F (149°C)
Molecular Weight: 337

EXPOSURE LIMITS

OSHA: 0.1 mg/m³, 8-hr TWA
NIOSH: 0.05 mg/m³, 10-hr TWA
ACGIH: 0.025 mg/m³, 8-hr TWA
IDLH: 10 mg/m³
 (All of the above are for *Mercury vapor*)

PROTECTIVE EQUIPMENT

Gloves: Butyl, Nitrile, Neoprene, Natural Rubber, Polyvinyl Chloride, Silver Shield®/4H® and Viton (>8-hr breakthrough for *Mercury*)

Coveralls: Tychem® SL, CPF 3, F, BR, LV, Responder® and TK (>8-hr breakthrough for *Mercury*)

Respirator: <0.5 mg/m³ - APR with filter specific for *Mercury*
 >0.5 mg/m³ - Supplied air
 >10 mg/m³ - SCBA

HEALTH EFFECTS

Eyes: Irritation and burns
Skin: Irritation and burns, skin rash, itching and gray skin color
Inhalation: Nose, throat and lung irritation with coughing, wheezing and severe shortness of breath (pulmonary edema)
 Nausea, vomiting and tremors
Chronic: *Methylmercury compounds* may cause cancer (kidney) in animals

FIRST AID AND DECONTAMINATION

Remove the person from exposure.
Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn. Seek medical attention.
Quickly remove contaminated clothing and wash contaminated skin with large amounts of d water.
Begin artificial respiration if breathing has stopped and CPR if necessary.
Transfer promptly to a medical facility.
Medical observation is recommended as symptoms may be delayed.