



## Introduction

The CHEMPACK program serves to augment existing local capabilities to respond to incidents involving chemical nerve agent or organophosphate release. The program includes the forward-placement of eight (8) containers of chemical nerve agent antidotes at four (4) different Cache Sites located throughout the State of Rhode Island.

### Sensitive Information Disclaimer

Because of the very sensitive nature this program, **locations of Cache Sites are not to be discussed outside of work or with those without a clearly understood “need to know.”** Under [42 USC § 247d-6b](#) and [5 USC § 552](#) (United States Code), federal agencies are prohibited from disclosing any information identifying the location at which CHEMPACK containers are stored. This prohibition from disclosure extends to all state and local-level emergency responders, and any other individual who may gain knowledge of a CHEMPACK container’s location through preparedness planning or utilization of a container.

## Contact Information

**Rhode Island Department of Health – Center for Emergency Preparedness and Response**

24/7 On-Call Number: 401-222-6911

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## What is a CHEMPACK?

A CHEMPACK is a container of nerve agent and organophosphate antidotes. Each of Rhode Island’s eight CHEMPACK containers contains the following:

Item	Unit Pack	Cases	Total Quantity
Pralidoxime 300mg autoinjector	240	5	1200
Atropine sulfate 0.4mg/mL, 20mL vial	100	1	100
Pralidoxime 1gm injection 20mL (IV)	276	1	276
Atropen 0.5mg autoinjector	144	1	144
Atropen 1.0mg autoinjector	144	1	144
Atropen 2.0mg autoinjector	136	9	1224
Diazepam 10mg/mL autoinjector	150	2	300
Midazolam 5mg/mL, 10mL vial	50	1	50
Sterile water for injection, 20cc vial	100	1	100

The container is designed primarily for field-use by EMS services and contains items to facilitate such use (most of the contents are autoinjectors). These items may also be readily used in hospital settings.

Rhode Island has supplemented the CHEMPACK containers with ancillary supplies, including needles, syringes, and sharps containers, to ensure that appropriate dosing and administration of the medications can occur in the field. These supplies are stored in red duffel bags with the CHEMPACK containers and will accompany the deployment of CHEMPACK.

## CHEMPACK Request and Deployment Process

The CHEMPACK request and deployment process consists of six steps:

- Step 1: Incident Recognition and Initial Request
- Step 2: Cache Site Notification and Deployment
- Step 3: Rhode Island State Police Notification
- Step 4: Interagency Notifications
- Step 5: CHEMPACK Retrieval and Delivery
- Step 6: Patient Transport and Ensuing Care

Some of these steps may be performed simultaneously.

### Step 1: Incident Recognition and Initial Request

A request for CHEMPACK should be considered in all incidents involving human exposure to a chemical nerve agent or organophosphate. **Deployment of CHEMPACK to treat a single casualty or patient is permissible.**

Rapid recognition of signs and symptoms associated with nerve agent or organophosphate pesticide is essential to ensuring the prompt request for CHEMPACK assets. Signs and symptoms of exposure include:

- Salivation (drooling)
- Lacrimation (tear production, crying)



- Urination
- Defecation and/or Diaphoresis (sweating)
- Gastrointestinal upset
- Emesis (vomiting)
- Miosis (pinpoint pupils) and/or Muscle spasms

Signs and symptoms of exposure can be remembered using the mnemonic **SLUDGEM**.

Upon recognition of one or more individuals who may have been exposed to a nerve agent or organophosphate pesticide, a request for CHEMPACK should be considered by either the on-scene incident commander or, if these individuals have presented to a hospital, the emergency department charge nurse/nurse manager or physician (or designee).

**All requests for CHEMPACK should be directed to RIDOH at (401) 222-6911.**  
(This is a 24/7 on-call system for public health emergencies)

When making a request, provide the following information:

- Name of Incident Commander or Emergency Department Physician/Charge Nurse and contact information
- Location of incident and staging area or delivery location
- Estimated number of casualties or patients

## Step 2: Cache Site Notification and Deployment

Upon receiving the request, **RIDOH will proceed to identify the appropriate CHEMPACK Cache Site**, based on the following considerations:

- Number of casualties
- Locations of Cache Sites in relation to incident scene or requesting hospital
- Number of CHEMPACK containers currently available at each Cache Site

After identifying the appropriate Cache Site, **RIDOH will contact the Cache Site to initiate the CHEMPACK deployment**, at which time the Cache Site will refer to its internal CHEMPACK deployment plan to execute the process. When relaying the request to the Cache Site, RIDOH will also confirm the Cache Site's designated pickup location.

### Cache Site Deployment

Upon being contacted by RIDOH to deploy CHEMPACK, the Cache Site will immediately contact its pharmacist to access the CHEMPACK container. **A physician's approval or authorization for release is not necessary, and attempting to secure such approval may expend valuable time.**

**In the absence of a pharmacist, a Cache Site should still deploy CHEMPACK assets as requested.** The Transfer of Custody Form should be completed by either Cache Site personnel with an active DEA license or the ranking clinical staff member immediately available. Again, **authorization from a physician or any other personnel from within the Cache Site is not necessary for deployment**; effort should be taken to ensure the process is completed safely and with speed.

## Step 3: Rhode Island State Police Notification



After contacting the Cache Site, **RIDOH will proceed to contact the Rhode Island State Police (RISP)** to notify them of the incident and request one or more resources to retrieve the CHEMPACK assets from the Cache Site and transport them to the incident staging area. During this call, RIDOH will relay the following information to RISP:

- Exact pickup location specified by the Cache Site
- Point of contact at the Cache Site
- Incident Staging Area specified by field requestor or drop-off location specified by the requesting hospital

## Step 4: Interagency Notifications

Once RIDOH completes these initial request processes, it will proceed to **notify the Host Hospital of the situation and instruct it to issue notifications via established communications mechanisms, including RISON 800 MHz HOSPITALS NET, to alert hospitals** to the situation, the possibility of receiving patients, and the need to activate hospital decontamination teams.

At this time, RIDOH will also ensure that Rhode Island Emergency Management Agency is aware of the situation.

## Step 5: Retrieval and Delivery

Upon arrival at the pickup location, **Rhode Island State Police will take custody of the CHEMPACK assets**, logging this information on the Transfer of Custody Form. After taking custody of the CHEMPACK assets, **RISP will proceed to transport them to the incident staging area/requesting hospital**, as instructed by RIDOH.

Upon arrival at the incident staging area or requesting hospital, **RISP will transfer custody of the assets to either the on-scene Incident Commander or ranking EMS officer (or ED physician/nurse manager)**, which should be recorded on the Transfer of Custody Form.

After completing the transfer, RISP should contact RIDOH at (401) 222-6911 to notify it that CHEMPACK has been delivered. RISP should then contact its command for further instruction.

### Managing Inventory of CHEMPACK Assets

While in possession of CHEMPACK assets, on-scene EMS personnel or hospital personnel (depending on the location) should consider the following:

- Designating and maintaining a secure area to store CHEMPACK assets, located close to the area where they will be used
- Establishing a process to track assets that are used or wasted

## Step 6: Patient Transport and Ensuing Care

It is important that RIDOH maintain awareness of patient transport destinations in a chemical emergency. It is likely that hospitals that receive patients from an incident involving a nerve agent or organophosphate release will themselves require CHEMPACK assets to provide appropriate patient care.

In order to ensure this awareness, early communication should be established by RIDOH with the on-scene Incident Commander. The **Incident Commander should also ensure communication with the Host**



**Hospital is quickly established, and that all receiving hospitals are provided prompt notification of incoming patient transports.**

In situations involving a limited number of patients, RIDOH will consider advising the Incident Commander to transport all patients to CHEMPACK Cache Site hospitals. In incidents involving large numbers of patients, **RIDOH will communicate with the on-scene Incident Commander to promote awareness of the availability of care resources and appropriate care locations.**

## **Prehospital Care**

EMS personnel should refer to the [Rhode Island Statewide EMS Protocols](#) for the prehospital management of patients exposed to a nerve agent or organophosphate pesticide.

Protocol 4.19 addresses nerve agent/organophosphate toxicity. (*Next Page*)

## 4.19 Nerve Agent or Organophosphate Toxicity

### Recognition:

- Patient(s) with suspected or known exposure to a nerve agent or organophosphates, displaying signs and symptoms of **SLUDGE**: salivation, lacrimation, urination, defecation, gastroenteritis, emesis, and miosis. Patients may also exhibit muscle twitching, seizures, respiratory arrest, and “Killer Bs”: bradycardia, bronchorrhea, and/or bronchospasm.

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**A**

- Utilize appropriate personal protective equipment (PPE).
- If the scene is determined to be unsafe, call for additional/appropriate resources and stage until the scene is safe.
- Ensure appropriate resources are available to perform decontamination.
- Consider activation of the CHEMPACK resources (nerve agent and organophosphate antidotes) from the RI Department of Health through Incident Command and Regional Control. Call **the Center for Emergency Preparedness and Response’s (CEPR) 24-hour on-call phone number: 401-222-6911.**
- Obtain history of ingestion/exposure.
- Utilize the *Major Incident Protocol* as indicated.
- Routine patient care.
- Consider consulting the **Regional Poison Control Center at: 1-800-222-1222** for advice.
- Transport to the nearest Hospital Emergency Facility unless otherwise directed by RIDOH.
- Depending on the number of patients exposed and whether CHEMPACK is being deployed, RIDOH may direct EMS to transport patients to Hospital Emergency Facilities with immediately available medical countermeasures, so as to ensure prompt and appropriate care.

**CEPR 24-hour on-call phone number: 401-222-6911**

*\* See nerve agent antidotes and CHEMPACK container contents charts on next page*

**C**

- Manage seizures with a benzodiazepine as per the age appropriate *Seizure Protocol*.

**P**

- Manage seizures with a benzodiazepine as per the age appropriate *Seizure Protocol*.
- For the patient with **mild/moderate symptoms** (respiratory distress + SLUDGE), if additive doses are required, administer ATROPINE 2 mg (pediatrics 0.02- 0.05 mg/kg) IV/IM every 5 minutes until symptoms resolve and (if available) PRALIDOXIME 600 mg (pediatrics 15-25 mg/kg) IV over 30 minutes or IM.
- For the patient with **severe symptoms** (minor + AMS or seizures), if additive doses are required, administer ATROPINE 6 mg (pediatrics 0.02- 0.05 mg/kg) IV/IM every 5 minutes until symptoms resolve and (if available) PRALIDOXIME 600 mg (pediatrics 15-25 mg/kg) IV over 30 minutes or IM.

Nerve Agent or Organophosphate Toxicity

4.19

## 4.19 Nerve Agent or Organophosphate Toxicity

If nerve agent antidotes are available, treat as below:

Patient Age	Antidotes <sup>1</sup>		Other Treatment
	Mild/Moderate Symptoms <sup>2</sup>	Severe Symptoms <sup>3</sup>	
Infant (0-2 years)	Atropine: 0.05 mg/kg IV/IM/IO; 2-PAM Cl: 15 mg/kg IV/IM/IO	Atropine: 0.1 mg/kg IV/IM/IO; 2-PAM Cl: 25 mg/kg IV/IM/IO/AI	Assisted ventilation should be started after administration of antidotes for severe exposures. (Avoid succinylcholine for intubation, if possible.)
Child (2-10 years)	Atropine: 1 mg IV/IM/IO/AI; 2-PAM Cl: 15 mg/kg IV/IM/IO	Atropine: 2 mg IV/IM/IO/AI; 2-PAM Cl: 25 mg/kg IV/IM/IO/AI	Repeat atropine dose (2 mg [max] IV/IM/AI) at 5–10-minute intervals until secretions have diminished and breathing is comfortable, or airway resistance has returned to near normal.
Adolescent (>10 years)	Atropine: 2 mg IV/IM/IO/AI; 2-PAM Cl: 15 mg/kg IV/IM/IO/AI	Atropine: 4 mg IV/IM/IO/AI; 2-PAM Cl: 25 mg/kg IV/IM/IO/AI	
Adult	Atropine: 2 to 4 mg IV/IM/IO/AI; 2-PAM Cl: 600 mg IV/IM/IO/AI	Atropine: 6 mg IV/IM/IO/AI; 2-PAM Cl: 1800 mg IV/IM/IO/AI	
Elderly, Frail	Atropine: 1 mg IV/IM/IO/AI; 2-PAM Cl: 10 mg/kg IV/IM/IO	Atropine: 2 to 4 mg IV/IM/IO/AI; 2-PAM Cl: 25 mg/kg IV/IM/IO/AI	Manage seizures with a benzodiazepine as per the age-appropriate Seizure Protocol (2.19).

<sup>1</sup> If 2-PAM Cl solution is needed, prepare from a vial containing 1 g desiccated 2-PAM Cl; reconstitute with 20 ml sterile water.

<sup>2</sup> Mild/Moderate symptoms include localized sweating, muscle fasciculations, nausea, vomiting, weakness, dyspnea.

<sup>3</sup> Severe symptoms include unconsciousness, convulsions, apnea, flaccid paralysis.

### CHEMPACK Container Contents

Item	Description	Quantity per Case	Cases
Pralidoxime 300mg autoinjector	Pralidoxime autoinjector	240	5
Atropine Sulfate 0.4mg/mL 20mL	Multi-dose vial of Atropine	100	1
Pralidoxime 1gm injection 20mL	Multi-dose vial of Pralidoxime	276	1
Atropen 0.5mg	Atropine autoinjector	144	1
Atropen 1.0mg	Atropine autoinjector	144	1
Atropen 2.0mg autoinjector	Atropine autoinjector	136	9
Diazepam 5mg/mL autoinjector	Diazepam autoinjector	150	1
Diazepam 5mg/mL vial, 10mL	Multi-dose vial of Diazepam	50	1
Sterile water 20cc	Vial of sterile water for injections	100	1

Nerve Agent or Organophosphate Toxicity

4.19



## Hospital Care

Hospital personnel should refer to the Agency for Toxic Substances and Disease Registry (ATSDR) [Medical Management Guidelines for Nerve Agents](#) for guidance on patient management in the emergency department.

Patient Age	Antidotes		Other Treatment
	Mild/Moderate Symptoms <sup>2</sup>	Severe Symptoms <sup>3</sup>	
Infant (0-2 years)	Atropine: 0.05 mg/kg IM or 0.02 mg/kg IV; 2-PAM Cl: 15 mg/kg IV slowly	Atropine: 0.1 mg/kg IM or 0.02 mg/kg IV; 2-PAM Cl: 15 mg/kg IV slowly	<b>Assisted ventilation</b> as needed  <b>Repeat atropine (2 mg IM or 1 mg IM for infants)</b> at 5-10 minute intervals until secretions have diminished and breathing is comfortable or airway resistance has returned to near normal.  <b>Phentolamine</b> for 2-PAM induced hypertension: (5 mg IV for adults; 1 mg IV for children)  <b>Diazepam</b> for convulsions: (0.2 to 0.5 mg IV for infants to 5 years; 1 mg IV for children > 5 years; 5 mg IV for adults)
Child (2-10 years)	Atropine: 1 mg IM; 2-PAM Cl: 15 mg/kg IV slowly	Atropine: 2 mg IM; 2-PAM Cl: 15 mg/kg IV slowly	
Adolescent (>10 years)	Atropine: 2 mg IM; 2-PAM Cl: 15 mg/kg IV slowly	Atropine: 4 mg IM; 2-PAM Cl: 15 mg/kg IV slowly	
Adult	Atropine: 2 to 4 mg IM; 2-PAM Cl: 15 mg/kg (1 g) IV slowly	Atropine: 6 mg IM; 2-PAM Cl: 15 mg/kg (1 g) IV slowly	
Elderly, Frail	Atropine: 1 mg IM; 2-PAM Cl: 5 to 10 mg/kg IV slowly	Atropine: 2 mg IM; 2-PAM Cl: 5 to 10 mg/kg IV slowly	

<sup>1</sup> **Mild/Moderate symptoms** include localized swelling, muscle fasciculations, nausea, vomiting, weakness, dyspnea.

<sup>2</sup> **Severe symptoms** include unconsciousness, convulsions, apnea, flaccid paralysis.

**Additional clinical guidance can be sought through Poison Control (800-222-1222).**

See also [HCRI Chemical Surge Annex](#) for more information on the healthcare system’s response to chemical emergencies.

## Cache Site Internal Deployment

If a CHEMPACK Cache Site recognizes the need to deploy CHEMPACK assets internally in order to care for individuals presenting with signs and symptoms of exposure, the **Cache Site should promptly notify RIDOH’s Center for Emergency Preparedness and Response at 401-222-6911 prior to accessing and deploying CHEMPACK assets.**

The Cache Site should take the following into consideration when deploying internally:

### For Official Use Only





- Designating and maintaining a secure area to store CHEMPACK assets, located close to the area where they will be used
- Establishing a process to track assets that are used or wasted
- The potential for additional CHEMPACK assets to be sent to the Cache Site to backfill supply during the response

## Demobilization

Following the deployment of CHEMPACK, and after the incident is stabilized, the Department of Health will issue guidance for the management of any unused CHEMPACK assets. These assets are the property of the State; **no assets are to be disposed of or retained without the Department of Health's explicit instruction to do so.**



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