

*Louisiana CHEMPACK Response Plan  
Region 8*



2014



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\*Signatories to be attached.

# Region 8 CHEMPACK Response Plan

## I. Purpose and Scope

### A. Purpose

This plan defines Region 8 policies and procedures relative to CHEMPACK.

### B. Scope

This plan establishes policies, procedures and organizational structures for response to a nerve agent or other organophosphate incident requiring the use of CHEMPACK. This response plan follows the established state guidelines to direct CHEMPACK response within a regional level.

## II. Situation and Assumptions

### A. Situation

1. CHEMPACK is federal owned asset which has been pre-positioned in two regional hospital Host Sites by the Louisiana Department of Health and Hospitals Office of Public Health (DHH OPH). These assets are to be used by pre-hospital services and hospitals under the **direction of the Louisiana Poison Center (LPC)**. The Louisiana Poison Center is available to assist in providing consultation on medical treatment during the response to an incident involving nerve agents or organophosphates.
2. The response to a nerve agent or organophosphate incident should be implemented in phases based upon the severity of the incident. The phases are as follows:
  - a) Tier I: Utilization of local or readily available resources.
  - b) Tier II: Request and use of CHEMPACK resources by telephoning the **Louisiana Poison Center (LPC) at 800-222-1222 or 318-813-3317.**
3. The toxic effects of nerve agents and other organophosphates require immediate medical and pharmaceutical intervention in both the pre-hospital and hospital settings.
4. The CHEMPACK Containers are designated by their respective contents as EMS or Hospital Containers. Located within Region 8 are three Containers- two EMS and one Hospital Container. The EMS Containers have a large number of auto-injectors medications and are primarily intended for field use. The quantity of medications found in an EMS Container is sufficient to treat approximately 454 patients. Hospital Containers with multi-dose vials of medications are primarily intended for use in the hospital setting. The quantity of medications available in a Hospital Container is sufficient to treat approximately 1000 patients.

5. The medications in CHEMPACK Containers are the same three drugs: atropine, pralidoxime (2-PAM), and diazepam. Treatment guidelines, asset allocations based on the number of patients, and the action of these medications can be found in *Appendices C, D, F*.
6. A *CHEMPACK Buffer* containing only atropine and pralidoxime sufficient to treat approximately five patients for 12 hours is co-located at each Host Site.
7. CHEMPACK Containers participate in the federal Shelf Life Extension Program (SLEP), allowing for extension of expiration dates as long as the sealed contents are maintained in a controlled environment. Post incident, unused expired medications must be discarded in accordance with the Louisiana Board of Pharmacy rules and regulations. Replacement of CHEMPACK Container contents is not assured.

#### B. Assumptions

1. Following the release of a nerve agent or organophosphate, the number of patients could quickly overwhelm the resources available. It may not be possible to save all victims.
2. Patients exposed to organophosphate substances may require treatment with much larger amounts of atropine and pralidoxime than patients exposed to nerve agents.

### III. Regional Concept of Operations

- A. Regional request to activate CHEMPACK assets will be reviewed by **LPC**.
- B. The CDC and Louisiana DHH authorize the **LPC** to direct a Host Site to break the CHEMPACK seal.
- C. **LPC** will determine whether Buffers and/or CHEMPACK assets are needed and will notify the Host Site to prepare for deployment.
- D. **LPC** will serve as a notification and allocation authority for CHEMPACK assets from Host Sites to EMS and between hospitals.
- E. All CHEMPACK transfers will occur at the Emergency Department's entrance of the Host Sites and the receiving sites.
- F. Host Sites must be familiar with CHEMPACK Container(s) and preparing the requested or pre-determined amounts of medication for transfer.

G. The Louisiana State Police, as ESF 13, will coordinate security for transportation of assets to the incident site and to Host Sites.

**LPC** will advise LSP on quantity that will need to be dispatched in order to determine appropriate transportation.

H. CHEMPACK generated waste will not be returned to the Host Site, but should be disposed of by the agency or facility that requested the material.

## **IV. Organization and Responsibilities**

### **A. Post-Incident**

1. After a CHEMPACK response, the OPH Tri-regional Pharmacist will document the date and location of the incident and conduct an inventory of any unused assets. This inventory will be provided to the OPH State Director of Pharmacy and the Louisiana CHEMPACK Coordinator for control and/or return of CHEMPACK assets
2. If a CHEMPACK Container is decommissioned, any and all equipment, Containers, and other material originally supplied when the Container was placed will be returned to the CDC CHEMPACK Program.

### **B. Unauthorized Opening of a CHEMPACK Container**

1. If a Container is inadvertently opened, the Host Site DEA registrant is to notify the Louisiana CHEMPACK Coordinator immediately upon discovering **The Louisiana Office of Public Health is available 24/7 at 800-256-2748.**
2. An inventory of the Container contents will be conducted by the Host Site and provided to the OPH State Director of Pharmacy. The circumstances surrounding the opening will accompany the inventory.

## **V. CHEMPACK Notification Levels for Host Sites**

A. Notification level shall be determined by the Louisiana Poison Center. The **LPC** will notify the host Sites.

### **1. Level 1 – STANDBY**

A nerve agent or organophosphate release is suspected, CHEMPACK Host Site(s) may be notified to be aware of the possibility of an incident.

No action by the Host Site is necessary at this time.

2. **Level 2 – ALERT**

Conditions indicate or symptoms are consistent with a nerve agent or organophosphate release. The LPC will notify the Host Site. The Host Site should initiate response plans in anticipation of opening the CHEMPACK Container(s) and or dispatch of CHEMPACK Buffers.

**CHEMPACK Container is not opened at this alert level.**

3. **Level 3 - ACTIVATION**

Conditions indicate or symptoms are consistent with a nerve agent or organophosphate release AND assets greater than those locally or readily available are necessary to meet the demands of the incident.

**Activate response plan. Dispatch “Buffers” and/or open the CHEMPACK Container and prepare contents for deployment as directed by the LPC.**

## **VI. ADMINISTRATION AND LOGISTICS**

A. Resource Allocation

Reported estimates of the number of persons affected will determine regional recommendations for resource allocation.

B. Communication

**LPC** will authorize the opening of CHEMPACK Containers at Host Site(s) or the dispatch of CHEMPACK Buffers. The **LPC** will contact the **LSP** to direct the transportation of CHEMPACK assets by the **LSP**. **LSP** will coordinate the transportation of the CHEMPACK by **LSP** assets or arrange transport with local law enforcement.

C. Notification

The **LPC** will contact the Host Site(s) to authorize opening a CHEMPACK Container or dispatch of CHEMPACK Buffers.

## Appendix A: Nerve Agents and Organophosphate Commercial Products

<b>Agent</b>	<b>Abbreviation</b>	<b>Chemical Name</b>
Tabun	GA	Ethyl N, N-dimethyl-phosphoramidocyanidate
Sarin	GB	Isopropyl-methylphosphonofluoridate
Soman	GD	1,2,2-Trimethylpropyl methylphosphonofluoridate
Cyclosarin	GF	Cyclohexyl-methylphosphonofluoridate
VX	VX	S-[2-(diisopropylamino)ethyl] methylphosphonothiolate

<b>Chemical Name</b>	<b>Brand Names</b>
acephate	Orthene
azinphos-methyl	Gusathion, Guthion
bensulide	Betasan, Lescosan
bomyl	Swat
bromophos	Nexion
bromophos-ethyl	Nexagan
cadusafos	Apache, Ebulos, Rugby
carbophenothion	Trithion
chlorethoxyfos	Fortress
chlorfenvinphos	Apachlor, Birlane
chlormephos	Dotan
chlorphoxim	Baythion-Cchlorpyrifos, Brodan, Dursban, Lorsban
chlorthiophos	Celathion
coumaphos	Asuntol, Co-Ral
crotoxyphos	Ciodrin, Cypona
crufomate	Ruelene
cyanofenphos	Surecide
cyanophos	Cyanox
cythioate	Cyffee, Proban
dEF	De-Green, E-Z-Off D
dematon	Systox
demeton-S-methyl	Duratox, Metasystoxl
dialifor	Torak
diazinon	
dichlorfenthion	VC-13, Nemacide
dichlorvos	DDVP, Vapone
dicrotophos	Bidrin
dimefos	Hanane, Pestox XIV

dimethoate	Cygon, DeFend
dioxathion	Deinav
disulfoton	Disyston
ditalimfos	
edifenphos	
endothion	
EPBP	S-Seven
EPN	
ethion	Ethanox
ethoprop	Mocap
ethyl parathion	E605, Parathion, Thiophos
etrimfos	Ekamet
famphur	Bash, Bo-Ana, Famfos
fenamiphos	Nemacur
fenitrothion	Accothion, Agrothion, Sumithion
fenophosphon	Agritox, Trichloronate
fensulfothion	Dasanit
fenthion	Baytex, Entex, Tiguvon
fonofos	Dyfonate, N-2790
formothion	Anthro
fosthietan	Nem-A-Tak
heptenophos	Hostaquick
hiometon	Ekatin
hosalone	Zolone
IBP	Kitazin
iodofenphos	Nuvalol-N
isazofos	Brace, Miral, Triumph
isofenphos	Amaze, Oftanol
isoxathion	E-48, Karphos,
leptophos	Phosvel
malathion	Cythion
mephosfolan	Cytrolane
merphos	Easy off-D, Folex
methamidophos	Monitor
methidathion	Supracide, Ultracide
methyl parathion	E 601, Penncap-M
methyl trithion	
mevinphos	Duraphos, Phosdrin
mipafox	Isopestox, Pestox XV
monocrotophos	Azpdrom
naled	Dibrom
oxydemethon-methyl	Metasystox-R
oxydeprofos	Metasystox-S
phencapton	G 28029



## Appendix B: Container Contents

### EMS CONTAINER – Treats 454 Patients

	Quantity	Total Units in Container	Number of Cases
Mark I Auto Injector	1200	240	5
Atropine Sulfate 0.4 mg/ml 20 ml	100	100	1
Pralidoxime 1Gm inj 20 ml vial	276	276	1
Atropen 0.5 mg	144	144	1
Atropen 1.0 mg	144	144	1
Diazepam 5mg/ml auto-injector	300	150	2
Diazepam 5mg/ml, 10ml vial	50	25	2
Sterile Water for Injection 20cc vials	200	100	2
Sensaphone 2050	1	1	1
Satco C DEA Container	1	1	1

### HOSPITAL CONTAINER – Treats 1000 Patients

	Quantity	Total Units in Container	Number of Cases
Mark I Auto Injector	480	240	2
Atropine Sulfate 0.4 mg/ml 20 ml	900	100	9
Pralidoxime 1Gm inj 20 ml vial	2760	276	10
Atropen 0.5 mg	144	144	1
Atropen 1.0 mg	144	144	1
Diazepam 5mg/ml auto-injector	150	150	1
Diazepam 5mg/ml, 10ml vial	650	25	26
Sterile Water for Injection 20cc vials	2300	100	23
Sensaphone 2050	1	1	1
Satco C DEA Container	1	1	1

### BUFFER – Treats 3 to 5 patients for 12 Hours

	Quantity
Atropine Sulfate 0.4 mg/ml, 20ml vial	20 multi-dose vials
Pralidoxime 1Gm inj 20 ml vial	10 multi-dose vials

## Appendix C: Treatment Guidelines for Pre-Hospital

### Antidote Dosing based on Symptoms

- Diaphoresis, Diarrhea
- Urination
- Miosis
- Bradycardia, Bronchospasm, Bronchorrhea, Bronchoconstriction
- Emesis
- Lacrimation
- Salivation

Collectively, these “**DUMBBELS**” findings present clinically as abdominal distress and severe compromise of lung function due to excess secretions.

Exposure	Symptoms	Initial Dosing* (EMS/Field)	Repeat Dosing (Transport/Hospital)
Mild	<b>DUMBBELS</b> Agitation	Observe or MARK 1	Observe
Moderate	<b>DUMBBELS</b> Agitation Respiratory distress	2 Mark 1**	Atropine 5-10 min 2-PAM q 30-60 min
Severe	<b>DUMBBELS</b> Respiratory distress Seizures	3 MARK 1*** Diazepam	Atropine 5-10 min 2-PAM q 30-60 min Diazepam q 2-5 min

\* Consider the use of Mark1 auto-injectors for infant/child/frail elderly **ONLY** in extraordinary circumstances if multi-dose not available, IV route not established and/or precise dosing is impossible.

\*\* As quick as possible, both drugs from the auto-injector, one right after the other.

#### Information on Auto-Injectors

*Note: Use of antidotes will not protect responders from anticipated exposures.*

1. Auto-injectors are self-contained, simple, compact injection systems that come equipped with a pre-measured dose (normal adult dose) of antidote.
2. An antidote relieves, counteracts, or reverses the effects of poisons or drugs such as nerve agents.
3. The Mark 1 auto-injectors must be kept at room temperature (about 25°C 77°F) and must be protected from freezing.

4. Auto-injectors permit rapid administration of antidote, prevent needle cross-contamination between patients, and enable rapid and accurate administration to a large number of patients (even if the emergency provider and the patient are in chemical protective clothing).
5. Auto-injectors facilitate treatment by providing simple, accurate, drug administration of a pre-measured, controlled dose.
6. Auto-injectors administer a predictable drug dose that is not operator dependent.
7. MARK1 auto-injectors contain pre-measured doses of the nerve agent antidotes:
  - Atropine
  - 2-PAM Chloride (2-PAM CL; pralidoxime chloride)
  - Each auto-injector contains pre-measured amounts of Atropine (2 mg total dose per injection) and 2-PAM CL (600 mg total dose per injection).
8. **Mark1 Auto-injectors are to be used only:**
  - When specific signs and symptoms of exposure are present
  - Scene has been declared the site of a nerve agent release by a competent authority
  - Following consultation with medical control and/or Louisiana Poison Center
  - **Mark1 Auto-injectors are not to be used as a prophylaxis for personal protection.**

## Mark1 Nerve Agent Antidote Auto-injector Use

Each Mark I Auto-injector contains:

Atropine auto-injector 2mg in 0.7cc

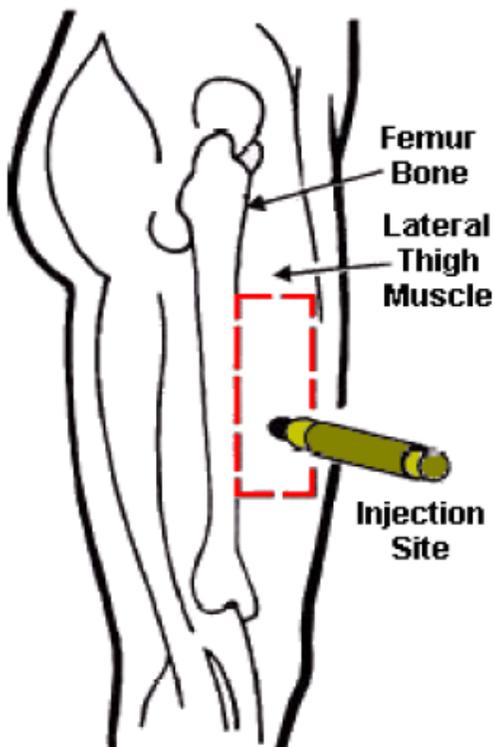
Pralidoxime auto-injector 600mg in 2cc



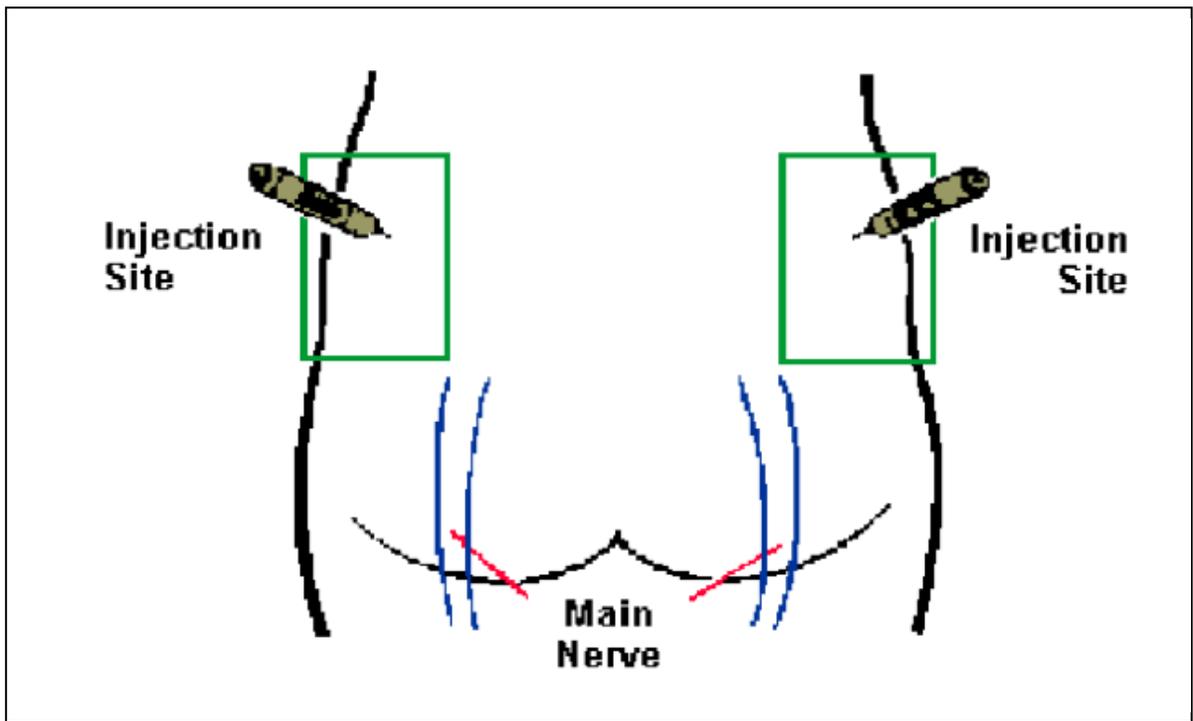
- The small injector, marked **1**, is atropine – 2mg and should be given first.
- The larger injector, marked **2** is 2-PAM – 600 mg and is given after the atropine.

Preferred site of injection for infants, children and adults the anterolateral thigh

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- Remove the safety cap from the auto-injectors.
- Apply firm, even pressure (not jabbing motion) to the injector until it pushes the needle into your thigh (or buttocks). Using a jabbing motion may result in an improper injection or injury to the thigh or buttocks.
- Firm pressure automatically triggers the coiled spring mechanism. This plunges the needle through the clothing into the muscle and at the same time injects the antidote into the muscle tissue.
- **Hold the injector firmly in place for at least 10 seconds.**
- Carefully remove the auto-injector from the injection site.
- The needle does not retract. Dispose of the auto-injector with caution.



**IMPORTANT:** Physicians and/or other medical personnel and emergency responders assisting evacuated victims of nerve agent exposure should avoid exposing themselves to cross-contamination by ensuring that they do not come into direct contact with the patient's clothing.

**Cautions for Use of Auto-injectors:**

- 1) Every potential exposure in the immediate vicinity of the incident must be medically evaluated and monitored. Delayed symptoms may present anytime post incident. **Any patient ill enough to receive even one dose of atropine must be evaluated at an appropriate facility (e.g. casualty collection point, hospital, etc.).**
- 2) Signs or symptoms of nerve agent poisoning may reappear. Serial observations are a critical part of the management process.
- 3) Auto-injectors have been developed for use in the adult population. Safety and effectiveness of 2-PAM CL in children has not been established.

**For additional information on the treatment of pediatric patients contact the Louisiana Poison Center at 800-222-1222 or 318-813-2217.**

## Appendix D: Treatment Guidelines for Hospitals

Patient	Mild/Moderate Effects <sup>1</sup>	Severe Effects <sup>2</sup>	Other Treatment
<b>Child</b>	<b>Atropine:</b> 0.05mg/kg IM or IV (minimum 0.1mg Maximum 5mg) <b>AND</b> <b>2-PAM:</b> 25mg/kg IM or IV (maximum 2Gm IM or 1Gm IV)	<b>Atropine:</b> 0.1mg/kg IM or IV (minimum 0.1mg, maximum 5mg) <b>AND</b> <b>2-PAM:</b> 50mg/kg IM or IV (maximum 2Gm IM or 1Gm IV)	Assisted ventilation for severe exposure.  <b>Repeat atropine</b> at 2-5 minute intervals until secretions have diminished and airway resistance has decreased.  <b>Repeat 2-PAM chloride</b> once at 30-60 minutes, then at one-hour intervals for 1-2 doses, as necessary.  <b>Diazepam</b> for seizures: Child - 0.05 to 0.3 mg/kg IV (maximum 10 mg); Adult - 5 mg IV <b>Other benzodiazepines (e.g. lorazepam)</b> may provide relief.
<b>Adult</b>	<b>Atropine:</b> 2 to 4 mg IM or IV  <b>AND</b>  <b>2-PAM<sup>3</sup>:</b> 600mg IM, or 25mg/kg IV slowly	<b>Atropine:</b> 6mg IM  <b>AND</b>  <b>2-PAM<sup>3</sup>:</b> 1800 mg IM, or 50mg/Kg IV slowly	Child - 0.05 to 0.3 mg/kg IV (maximum 10 mg); Adult - 5 mg IV <b>Other benzodiazepines (e.g. lorazepam)</b> may provide relief.  <b>Phentolamine</b> for 2-PAM chloride-induced hypertension: 1 mg IV for children; 5 mg IV for adults.

1. **Mild/Moderate effects of nerve agents** include localized sweating, muscle fasciculations, nausea, vomiting, weakness, dyspnea.
2. **Severe effects of nerve agents** include unconsciousness, seizures, apnea, flaccid paralysis.
3. Dose selection of 2-PAM chloride for elderly patients should be cautious (usually starting at 600 mg IM, or 25 mg/kg IV slowly) to account for the generally decreased organ functions in this population.

**NOTE:** 2-PAM chloride (2-PAM) is pralidoxime chloride, trade name Protopam®.

**CHEMPACK:** CHEMPACK is a federal program to provide nerve agent antidotes (Atropine, 2-PAM, Diazepam) to during an emergency.

**Additional Assistance:** Contact the **Louisiana Poison Center at 800-222-1222 or 318-813-3317** for additional information regarding dosing.

## Appendix E: Poisoning from Nerve Agents or Organophosphates

Nerve agents and Organophosphate Insecticides cause the same symptoms. In fact, the Germans were researching insecticides when the extremely potent agents now referred to as the “G” (for German) agents were discovered. All of these substances work in the same manner, by inhibiting the enzyme acetylcholinesterase.

Treatment of patients exposed to any of these substances is based upon the history of exposure, the route of exposure, and the symptoms present.

It is important to remember that symptoms following exposure may occur within seconds and progress to potentially fatal within minutes, so therapy should be initiated as quickly as possible.

### Routes of Exposure:

Exposure to organophosphates can occur through inhalation (breathing), dermal (skin) exposure, ocular (eye) exposure, or through the gastrointestinal tract (drinking or eating).

### Patient History

- Symptoms following exposure to a nerve agent can occur within seconds. Symptom onset following dermal exposure may be delayed up to 18 hours post exposure.
- A history of possible exposure combined with classic physical signs and symptoms help make the diagnosis.
- Most nerve agents have little or no odor. Some commercially available organophosphate insecticides have a very strong odor.

### Physical

Physical findings vary according to the route of exposure, the age of patient, and the specific chemical.

- Muscarinic findings may include the following:
  - Diaphoresis, Diarrhea
  - Urination
  - Miosis
  - Bradycardia, Bronchospasm, Bronchorrhea, Bronchoconstriction
  - Emesis
  - Lacrimation
  - Salivation

Collectively, these “**DUMBBELS**” findings present clinically as abdominal distress and severe compromise of lung function due to excess secretions.

- Nicotinic findings may include the following:
  - Muscle fasciculations (twitching)
  - Fatigue
  - Paralysis
  - Respiratory muscle weakness
  - Diminished respiratory effort
  - Tachycardia
  - Hypertension
  
- CNS findings may include the following:
  - Anxiety
  - Restlessness
  - Confusion
  - Headache
  - Slurred speech
  - Ataxia
  - Seizures
  - Coma
  - Central respiratory paralysis
  - Altered level of consciousness and/or hypotonia

### **Medical Care:**

- Pre-hospital care
  - Ensure airway support and ventilation and perform endotracheal intubation, if necessary, to support the patient before arrival.
  - Circulatory support with intravenous (IV) access, fluids, and cardiac and pulse oximetry monitoring can facilitate safe transport.
  - Decontamination is of the utmost importance in minimizing continued exposure and to protect providers and other patients from contamination. Decontamination involves removing all of the patient's clothing and washing him or her completely with water and soap.
  - By describing the scene, prevalent odors, or other casualties, pre-hospital providers may provide important clues to the presence of exposure.
  - If caregivers in the pre-hospital setting are able to make the diagnosis or organophosphate poisoning then treatment can begin in the pre-hospital setting with the administration of antidotal therapy.
  - Consultation with the staff of the Louisiana Poison Center at 800-222-1222 can aid in making the diagnosis.

- Hospital and Emergency Department Care
  - Patients who are inadequately decontaminated may expose rescue personnel and hospital staff to the toxin.
  - Assess the patient's airway, breathing, and circulation (ABCs). Secure the airway and perform cardiovascular resuscitation if needed. Endotracheal intubation may be necessary for airway protection and ventilatory support.
  - If the patient's condition is stable, decontamination is the next priority. Pre-hospital providers may also need decontamination. The dermal decontamination of exposed individuals is a priority before they enter the emergency department where they can contaminate other patients and staff members.
  - Gastric decontamination with activated charcoal should be performed in all cases of significant exposure because of the entero-hepatic recirculation common with these compounds.
  - Severe exposures require expeditious antidotal therapy. Atropine is used to dry excess secretions and to ease respiratory tension.
  - Atropine should be used in doses sufficient to dry secretions. Dose atropine to drying of respiratory secretions without regard to changes in heart rate or pupil size. Continued repeat dosing of atropine should occur as needed to control excess secretions.
  - **Pralidoxime (2-PAM)** is used break the bond between the agent and the acetylcholinesterase molecule. 2-PAM aids in treating the muscular weakness associated with exposure to a nerve agent or other organophosphate.
  - **Seizures should be treated with diazepam (Valium) or other benzodiazepine like lorazepam (Ativan).**

**Consultations:**

- Consult a medical toxicologist or the Louisiana Poison Center at 800-222-1222 for patient management assistance.
- Consult a critical care specialist early in severe poisonings for on-going care outside the Emergency Department.

## Appendix F: CHEMPACK Allocation Guidelines

This guideline provides a method by which the assets of the two types of CHEMPACK (EMS or Hospital) Containers may be deployed. Personnel who will be a part of the team that opens the Container, gathers, sorts, packages, and deploys CHEMPACK assets should be familiar with these guidelines.

### Assets and Case Sizes Defined:

- (1) **Mark 1 Kits** – Each case contains a total of 240 Mark 1 Kits packaged in 8 smaller boxes of 30 auto-injectors (case size: 13.25” ht x 19” wd x 13.5” long and weighs 39.5 lbs)
- (2) **Atropine Sulfate 0.4mg/mL** – Each case contains a total of 100 multiple doses vials packaged in four flats of 25 vials.  
(case size: 6.13” ht x 5.63” wd x 13.5” long and weighs 12 lbs)
- (3) **Pralidoxime 1gram vials** – Case contains a total of 276 vials packaged in 46 boxes of six 1 gram vials.  
(case size: 11.81” ht x 14” wd x 12.31” long and weighs 11.5 lbs)
- (4) **Atropen® 0.5mg auto-injectors** – Each case contains 144 auto-injectors packaged in 12 smaller boxes of 12 auto-injectors.  
(case size: 14” ht x 10.5” wd x 19.18” long and weighs 16.8 lbs)
- (5) **Atropen® 1mg auto-injectors** – Each case contains 144 auto-injectors packaged in 12 smaller boxes of 12 auto-injectors.  
(case size: 14” ht x 10.5” wd x 19.18” long and weighs 16.8 lbs)
- (6) **Diazepam 10mg/2mL auto-injectors** – Each case contains 150 auto-injectors packaged in 10 smaller boxes of 15 auto-injectors.  
(case size: 9.5” ht x 8.5” wd x 24.24” long and weighs 20 lbs)
- (7) **Diazepam 5mg/mL 10mL** – Each case contains 25 multiple dose vials packaged in smaller boxes of five 10mL vials.  
(case size: 6” ht x 6.5” wd x 2.75” long and weighs 1.8 lbs)
- (8) **Sterile Water for Injection 20mL single use vials** – Each case contains 100 vials packaged in four flats of 25 vials.  
(case size: 13” ht x 6.63” wd x 6” long and weighs 7.2 lbs)

### Basic Principles:

- (1) **TIMELY RESPONSE IS CRITICAL!**
- (2) Attempts will be made to avoid opening or dividing smaller boxes or flats within the larger cases. This will allow for a minimum of additional handling and which would slow the packaging and transportation of the assets further. **TIMELY RESPONSE IS CRITICAL!**
- (3) Education of all personnel who may be involved in this process is essential to make rapid deployment possible.

## EMS Container Allocations

**Each EMS Container treats up to 454 patients**

**Halves Allocation Method (~227 patients per site)**

Asset and Amount	SITE ONE	SITE TWO
Mark 1 Kits, 1200 auto-injectors	<b>20 boxes</b> (600 Mark 1 Kits)	<b>20 boxes</b> (600 Mark 1 Kits)
Atropine Sulfate 0.4mg/mL 20mL, 100 vials	<b>2 flats</b> (50 vials)*	<b>2 flats</b> (50 vials)*
Pralidoxime 1 gram vials, 276 vials	<b>23 boxes</b> (138 vials) *	<b>23 boxes</b> (138 vials) *
Atropen® 0.5mg, 144 auto-injectors	<b>6 boxes</b> (72 auto-injectors) *	<b>6 boxes</b> (72 auto-injectors)
Atropen® 1mg, 144 auto-injectors	<b>6 boxes</b> (72 auto-injectors) *	<b>6 boxes</b> (72 auto-injectors)*
Diazepam 10mg, 300 auto-injectors	<b>1 case</b> (150 auto-injectors)	<b>1 case</b> (150 auto-injectors)
Diazepam 5mg/mL 10mL vials, 50 vials	<b>1 case</b> (25 vials)	<b>1 case</b> (25 vials)
Sterile Water for Injection 20mL vial, 200 vials	<b>1 case</b> (100 vials) *	<b>1 case</b> (100 vials) *



**Cases of these items must be opened to retrieve individual boxes or flats.**

## EMS Container Allocations

### Thirds Allocation Method (~151 patients per site)

Asset and Amount	SITE ONE	SITE TWO	SITE THREE
<b>**Mark 1 Kits, 1200 auto-injectors</b>	<b>2 cases</b> (480 Mark 1 Kits)	<b>2 cases</b> (480 Mark 1 Kits)	<b>1 cases</b> (120 Mark 1 Kits)
<b>Atropine Sulfate 0.4mg/mL 20mL, 100 vials</b>	<b>2 flats</b> (50 vials) **	<b>1 flat</b> (25 vials) **	<b>1 flat</b> (25 vials) **
<b>Pralidoxime 1 gram vials, 276 vials</b>	<b>16 boxes</b> (96 vials) **	<b>15 boxes</b> (90 vials) **	<b>15 boxes</b> (90 vials) **
<b>Atropen® 0.5mg, 144 auto-injectors</b>	<b>4 boxes</b> (48 auto-injectors) **	<b>4 boxes</b> (48 auto-injectors) **	<b>4 boxes</b> (48 auto-injectors) **
<b>Atropen® 1mg, 144 auto-injectors</b>	<b>4 boxes</b> (48 auto-injectors) **	<b>4 boxes</b> (48 auto-injectors) **	<b>4 boxes</b> (48 auto-injectors) **
<b>Diazepam 10mg, 300 auto-injectors</b>	<b>7 boxes</b> (105 auto-injectors) **	<b>7 boxes</b> (105 auto-injectors) **	<b>6 boxes</b> (90 auto-injectors) **
<b>Diazepam 5mg/mL 10mL vials, 50 vials</b>	<b>4 boxes</b> (20 vials)**	<b>3 boxes</b> (15 vials)**	<b>3 boxes</b> (15 vials)**
<b>Sterile Water for Injection 20mL vial, 200 vials</b>	<b>3 flats</b> (75 vials)**	<b>3 flats</b> (75 vials) **	<b>2 flats</b> (50 vials)**



**\* Cases of these items must be opened to retrieve individual boxes or flats.**

\* \*\*Due to the rapid need for the Mark 1 Kits, further handling and division is not advised, It is better to transport full cases to the field instead of attempting to further divide the assets in a more even fashion.

## EMS Container Allocations

### Fourths Allocation Method (~113 patients per site)

Asset and Amount	SITE ONE	SITE TWO	SITE THREE	SITE FOUR
**Mark 1 Kits, 1200 auto-injectors	<b>2 cases</b> (480 Mark 1 Kits)	<b>1 case</b> (240 Mark 1 Kits)	<b>1 case</b> (240 Mark 1 Kits)	<b>1 case</b> (240 Mark 1 Kits)
*Atropine Sulfate 0.4mg/mL 20mL, 100 vials	<b>1 flat</b> (25 vials)	<b>1 flat</b> (25 vials)	<b>1 flat</b> (25 vials)	<b>1 flat</b> (25 vials)
*Pralidoxime 1 gram vials, 276 vials	<b>12 boxes</b> (72 vials)	<b>12 boxes</b> (72 vials)	<b>12 boxes</b> (72 vials)	<b>10 boxes</b> (60 vials)
*Atropen 0.5mg, 144 auto-injectors	<b>3 boxes</b> (36 auto- injectors)	<b>3 boxes</b> (36 auto- injectors)	<b>3 boxes</b> (36 auto- injectors)	<b>3 boxes</b> (36 auto- injectors)
*Atropen 1mg, 144 auto-injectors	<b>3 boxes</b> (36 auto- injectors)	<b>3 boxes</b> (36 auto- injectors)	<b>3 boxes</b> (36 auto- injectors)	<b>3 boxes</b> (36 auto- injectors)
*Diazepam 10mg, 300 auto-injectors	<b>5 boxes</b> (75 auto- injectors)	<b>5 boxes</b> (75 auto- injectors)	<b>5 boxes</b> (75 auto- injectors)	<b>5 boxes</b> (75 auto- injectors)
*Diazepam 5mg/mL 10mL vials, 50 vials	<b>3 boxes</b> (15 vials)	<b>3 boxes</b> (15 vials)	<b>3 boxes</b> (15 vials)	<b>1 box</b> (5 vials)
*Sterile Water for Injection 20mL vial, 200 vials	<b>2 flats</b> (50 vials)	<b>2 flats</b> (50 vials)	<b>2 flats</b> (50 vials)	<b>2 flats</b> (50 vials)



**Cases of these items must be opened to retrieve individual boxes or flats.**

\* \*Due to the rapid need for the Mark 1 Kits, further handling and division is not advised. It is better to transport full cases to the field instead of attempting to further divide the assets in a more even fashion.

## Hospital Container Allocations

### Each Hospital Container treats up to 1000 patients

#### Halves Allocation Method (500 patients per hospital)

Asset and Amount	Hospital One	Hospital Two
Mark 1 Kits, 480 auto-injectors	<b>1 case</b> (240 Mark 1 Kits)	<b>1 case</b> (240 Mark 1 Kits)
Atropine Sulfate 0.4mg/mL 20mL, 900 vials	<b>5 cases</b> (500 vials)	<b>4 cases</b> (400 vials)
Pralidoxime 1 gram vials, 2760 vials	<b>5 cases</b> (1380 vials)	<b>5 cases</b> (1380 vials)
Atropen® 0.5mg, 144 auto-injectors	<b>*6 boxes</b> (72 auto-injectors)	<b>*6 boxes</b> (72 auto-injectors)
Atropen® 1mg, 144 auto-injectors	<b>*6 boxes</b> (72 auto-injectors)	<b>*6 boxes</b> (72 auto-injectors)
Diazepam 10mg, 150 auto-injectors	<b>*5 boxes</b> (75 auto-injectors)	<b>*5 boxes</b> (75 auto-injectors)
Diazepam 5mg/mL 10mL vials, 650 vials	<b>13 cases</b> (325 vials)	<b>13 cases</b> (325 vials)
Sterile Water for Injection 20mL vial, 2800 vials	<b>14 cases</b> (1400 vials)	<b>14 cases</b> (1400 vials)



\*  Cases of these items must be opened to retrieve individual boxes or flats.

## Hospital Container Allocations

### Thirds Allocation Method (333 patients per hospital)

Asset and Amount	Hospital One	Hospital Two	Hospital Three
Mark 1 Kits, 480 auto-injectors	<b>*6 boxes</b> (180 Mark 1 Kits)	<b>*5 boxes</b> (150 Mark 1 Kits)	<b>*5 boxes</b> (150 Mark 1 Kits)
Atropine Sulfate 0.4mg/mL 20mL, 900 vials	<b>3 cases</b> (300 vials)	<b>3 cases</b> (300 vials)	<b>3 cases</b> (300 vials)
Pralidoxime 1 gram vials, 2760 vials	<b>4 cases</b> (1104 vials)	<b>3 cases</b> (828 vials)	<b>3 cases</b> (828 vials)
Atropen® 0.5mg, 144 auto-injectors	<b>*4 boxes</b> (48 auto-injectors)	<b>*4 boxes</b> (48 auto-injectors)	<b>*4 boxes</b> (48 auto-injectors)
Atropen® 1mg, 144 auto-injectors	<b>*4 boxes</b> (48 auto-injectors)	<b>*4 boxes</b> (48 auto-injectors)	<b>*4 boxes</b> (48 auto-injectors)
Diazepam 10mg, 150 auto-injectors	<b>*4 boxes</b> (60 auto-injectors)	<b>*3 boxes</b> (45 auto-injectors)	<b>*3 boxes</b> (45 auto-injectors)
Diazepam 5mg/mL 10mL vials, 650 vials	<b>9 cases</b> (225 vials)	<b>9 cases</b> (225 vials)	<b>8 cases</b> (200 vials)
Sterile Water for Injection 20mL vial, 2800 vials	<b>10 cases</b> (1000 vials)	<b>9 cases</b> (900 vials)	<b>9 cases</b> (900 vials)



**Cases of these items must be opened to retrieve individual boxes or flats.**

## Hospital Container Allocations

### Fourths Allocation Method (250 patients per hospital)

Asset and Amount	Hospital One	Hospital Two	Hospital Three	Hospital Four
Mark 1 Kits, 480 auto-injectors	<b>*4 boxes</b> (120 Mark 1 Kits)			
Atropine Sulfate 0.4mg/mL 20mL, 900 vials	<b>3 cases</b> (300 vials)	<b>2 cases</b> (200 vials)	<b>2 cases</b> (200 vials)	<b>2 cases</b> (200 vials)
Pralidoxime 1 gram vials, 2760 vials	<b>3 cases</b> (828 vials)	<b>3 cases</b> (828 vials)	<b>2 cases</b> (552 vials)	<b>2 cases</b> (552 vials)
Atropen® 0.5mg, 144 auto-injectors	<b>*3 boxes</b> (36 auto-injectors)	<b>*3 boxes</b> (36 auto-injectors)	<b>*3 boxes</b> (36 auto-injectors)	<b>*3 boxes</b> (36 auto-injectors)
Atropen® 1mg, 144 auto-injectors	<b>*3 boxes</b> (36 auto-injectors)	<b>*3 boxes</b> (36 auto-injectors)	<b>*3 boxes</b> (36 auto-injectors)	<b>*3 boxes</b> (36 auto-injectors)
Diazepam 10mg, 150 auto-injectors	<b>*3 boxes</b> (45 auto-injectors)	<b>*3 boxes</b> (45 auto-injectors)	<b>*2 boxes</b> (30 auto-injectors)	<b>*2 boxes</b> (30 auto-injectors)
Diazepam 5mg/mL 10mL vials, 650 vials	<b>7 cases</b> (175 vials)	<b>7 cases</b> (175 vials)	<b>6 cases</b> (150 vials)	<b>6 cases</b> (150 vials)
Sterile Water for Injection 20mL vial, 2800 vials	<b>6 cases</b> (600 vials)	<b>6 cases</b> (600 vials)	<b>6 cases</b> (600 vials)	<b>5 cases</b> (500 vials)



**Cases of these items must be opened to retrieve individual boxes or flats.**

## Hospital Container Allocations

**For any number of patients that exceed the treatment capacity of available CHEMPACK Buffers the following allocation will be used for 100 or fewer patients. There are enough supplies in a hospital pack to supply 8 sites with 100 or fewer patients from the allocations below, or fewer sites with re-supply amounts available.**

### Tenths Allocation (100 patients)

Asset and Amount	Each Hospital	
Mark 1 Kits, 480 auto-injectors	<b>*2 boxes</b> (60 Mark 1 Kits)	
Atropine Sulfate 0.4mg/mL 20mL, 900 vials	<b>1 case</b> (100 vials)	
Pralidoxime 1 gram vials, 2760 vials	<b>1 case</b> (276 vials)	
Atropen® 0.5mg, 144 auto-injectors	<b>*1 box</b> (12 auto-injectors)	
Atropen® 1mg, 144 auto-injectors	<b>*1 box</b> (12 auto-injectors)	
Diazepam 10mg, 150 auto-injectors	<b>*1 box</b> (15 auto-injectors)	
Diazepam 5mg/mL 10mL vials, 650 vials	<b>3 cases</b> (50 vials)	
Sterile Water for Injection 20mL vial, 2800 vials	<b>3 cases</b> (300 vials)	

  **Cases of these items must be opened to retrieve individual boxes or flats.**

## Sample “Pick List”

Your hospital site has been contacted and given directions to open 1 CHEMPACK Container. Instructions to prepare 1 one-tenths allocation are given. The following “pick list” should be used to prepare the shipment.

### One-tenths Allocation Pick List

After the CHEMPACK Container seal is broken and the door is removed, collect the following and prepare for deployment. Check beside each number after those items have been removed, checked and set aside for shipment.

1. Remove one of the cases of Mark I Kits labeled with a blue sticker. Open that case, remove 2 of the boxes inside and place those 2 boxes aside for shipment. 
2. Remove one case of atropine sulfate labeled with a green sticker. Do not open the case. Set aside for shipment. 
3. Remove one case of pralidoxime labeled with a red sticker. Do not open the case. Set aside for shipment. 
4. Remove the case of atropine 0.5mg auto-injectors labeled with a pink sticker. Open the case and remove 1 of the boxes inside. Place that 1 box aside for shipment. 
5. Remove the case of atropine 1.0mg auto-injectors labeled with an orange sticker. Open the case and remove 1 of the boxes inside. Place that 1 box aside for shipment. 
6. Remove one case of diazepam auto-injectors labeled with a brown label. Open the case and remove 1 of the boxes inside. Place that 1 box aside for shipment. 
7. Remove three cases of diazepam 5mg/ml labeled with a purple sticker. Do not open the three cases. Place those cases aside for shipment. 
8. Remove three cases of sterile water for injection labeled with yellow stickers. Do not open the cases. Place those cases aside for shipment. 
9. Package items removed from cases in a box and secure with tape.

# Legend

## Mark I Kits

Contents:  
8 boxes of 30 Kits  
240 total Kits total

## Atropine Sulfate 0.4 mg/ml 20ml vials

Contents:  
4 flats of 25 vials each  
100 vials total

## Pralidoxime 1Gram vials

Contents:  
46 boxes of 6 vials  
276 vials total

## Atropen 0.5mg

Contents:  
12 boxes of 12 injectors  
144 auto-injectors total

## Atropen 1.0mg

Contents:  
12 boxes of 12 injectors  
144 auto-injectors total

## Diazepam 10mg

Contents:  
10 boxes of 15 injectors  
150 auto-injectors total

## Diazepam 5mg/ml 10 ml vials

Contents:  
5 boxes of 5 vials each  
25 vials total

## Sterile Water for Injection 20 ml vials

Contents:  
4 flats of 25 vials each  
100 vials total

## Appendix G: Pharmacology of Nerve Agent Antidotes

**Atropine:** Competitive antagonist of acetylcholine at muscarinic sites. It is used to treat gastrointestinal, pulmonary, and upper airway symptoms after known or suspected exposure to a nerve agent or organophosphate. Administer until cholinergic signs reverse. Large doses may be needed.

<b>Adult Dose</b>	0.05 mg/kg IV initially; then 1-2 mg IV q20-30min until cholinergic signs reverse
<b>Pediatric Dose</b>	<12 years: 0.02-0.05 mg/kg IV q20-30min until cholinergic signs reverse; ≥12 years: Administer as in adults
<b>Contraindications</b>	Documented hypersensitivity; thyrotoxicosis; narrow-angle glaucoma; tachycardia
<b>Interactions</b>	Coadministration with other anticholinergics have additive effects; may increase pharmacologic effects of atenolol and digoxin; may decrease antipsychotic effects of phenothiazines; tricyclic antidepressants with anticholinergic activity may increase effects
<b>Pregnancy</b>	C (Safety for use during pregnancy has not been established)
<b>Precautions</b>	Caution in coronary heart disease, tachycardia, congestive heart failure, cardiac arrhythmias, and hypertension; caution in peritonitis, ulcerative colitis, hepatic disease, and hiatal hernia with reflux esophagitis; in prostatic hypertrophy, prostatism can cause dysuria and catheterization may be required; may impair regulation of body temperature (caution in hot and humid weather)

**2-PAM (Protopam):** An agent that reactivates AChE by binding to organophosphate molecule, displacing the AChE and allowing it to once again inactivate acetylcholine. It is used to treat muscle weakness and respiratory muscle weakness in known exposure. 2-PAM must be administered before a phenomenon known as aging occurs. Aging may occur as soon as two minutes after exposure to Soman or as late as 48 hours after exposure to VX. Aging times vary by specific organophosphate substance, so 2-PAM should be administered as soon as possible after exposure.

In a symptomatic patient, both 2-PAM and atropine should be administered.

<b>Adult Dose</b>	1-2 g IV over 15 min, then 500 mg/h IV until muscle strength returns
<b>Pediatric Dose</b>	<12 years: 25-50 mg/kg IV initially, then 10-20 mg/kg/h IV until muscle strength returns; ≥12 years: 0.5-1 g IV initially, then 500 mg/h IV until muscle strength returns
<b>Contraindications</b>	Documented hypersensitivity
<b>Interactions</b>	AChE inhibitors may potentiate the action of barbiturates; may antagonize the effects of neostigmine, pyridostigmine, and edrophonium. Morphine, theophylline, aminophylline, succinylcholine, reserpine, and phenothiazines can worsen condition of patients poisoned by organophosphate insecticides or nerve agents (do not administer)
<b>Pregnancy</b>	C (Safety for use during pregnancy has not been established)
<b>Precautions</b>	Rapid injection can cause tachycardia, laryngospasm, muscle rigidity, pain at injection site, blurred vision, diplopia, impaired accommodation, dizziness, drowsiness, nausea, tachycardia, hypertension, and hyperventilation; can precipitate myasthenia crisis in patients with myasthenia gravis and muscle rigidity in healthy volunteers; renal dysfunction increases serum levels because excreted in urine; can transiently increase creatinine phosphokinase level; aspartate aminotransferase and/or alanine aminotransferase levels increase in 1 of 6 patients.

### **Further Inpatient Care**

- Admit patients to the hospital if they require therapy with atropine or 2-PAM. Monitoring, respiratory support, and assisted ventilation may be needed.
- Consult the poison center for information regarding the specific agent and patient management guidance.

### **Further Outpatient Care**

- Patients with minor or no symptoms of toxicity after inhalational exposure to a nerve agent or other organophosphate exposure may be discharged from the Emergency Department after 6 hours of observation.

- Patients with dermal exposure should be monitored for an extended period. Symptoms following dermal exposure, even if decontamination has been performed, may be delayed for up to 18 hours post exposure.
- Discharged patients usually do not require outpatient medications, but should be counseled about the duration that any symptoms present may persist.

### **Transfer**

- Transfer pediatric patients with severe life-threatening exposures to a facility with a pediatric intensivist and intensive care unit.

Patients should be clinically stable before transfer.

# Appendix H: Chain of Custody Form

## CHEMPACK CHAIN OF CUSTODY FORM

CONTAINER NUMBER (4 Digits): \_\_\_\_\_

DATE: \_\_\_\_\_

### A. HOST SITE

#### STEP 1: TO BE COMPLETED BY THE HOST SITE

##### Name, Address and Phone Number of HOST Facility

Contact Person: \_\_\_\_\_

Title: \_\_\_\_\_

Name of HOST Facility: \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_

PhoneNumber: \_\_\_\_\_

##### Name, Address, and Phone Number of RECEIVING Site

Contact Person: \_\_\_\_\_

Title: \_\_\_\_\_

Name of Receiving Site: \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_

Phone Number: \_\_\_\_\_

STEP 2: ATTACH A COPY OF THE PICK/PACKING LIST TO THIS FORM

STEP 3: DELIVER MATERIALS TO THE DESIGNATED PICK UP LOCATION

STEP 4: ENTER THE NAME OF THE PERSON TRANSPORTING THE MATERIALS: \_\_\_\_\_

STEP 5: ENTER THE TIME THE MATERIALS ARE RELEASED FOR TRANSPORT: \_\_\_\_\_

**STEP 6: IMPORTANT- RETAIN THE BOTTOM COPY OF THIS FORM FOR YOUR RECORDS.**

### B. TRANSPORTER

STEP 1: ENTER THE NAME AND TITLE OF THE PERSON MATERIALS ARE RELEASED TO AT THE RECEIVING SITE:

\_\_\_\_\_

### C. RECEIVING SITE

STEP 1: PERFORM INVENTORY OF MATERIALS RECEIVED. COMPARE TO PICK/PACKING LIST.

Name and title of person performing inventory: \_\_\_\_\_

STEP 2: DISTRIBUTE MATERIALS FOR USE.

STEP 3: RETAIN THE CUSTODY FORM AND PICK/PACKAGING LIST FOR YOUR RECORDS.

**Appendix I: General Information Signage and Fact Sheet**

# CHEMPACK

**ONLY** nerve agent or organophosphate antidotes

Clinically presents as abdominal distress and severe compromise of lung function due to excess secretions

**“DUMBBELS”**

- **D**iaphoresis, **D**iarrhea
- **U**rination
- **M**iosis
- **B**radycardia, **B**ronchospasm, **B**ronchorrhea, **B**ronchoconstriction
- **E**mesis
- **L**acrimation
- **S**alivation

*Container locations are confidential*

**CHEMPACK Medications: Mark 1 Auto-injectors,  
Atropine and Pralidoxime (2-PAM)**

**Contact the Louisiana Poison Center at  
800-222-1222 to consult and request assets**



## CHEMPACK FACT SHEET

### ***What is CHEMPACK?***

CHEMPACK is nerve agent antidotes placed in secure containers by the federal government. Thirty of these containers have been pre-positioned across Louisiana. Nerve agent antidotes are an important component of all hazard preparedness. Terrorist have access to many different types of chemical agents and nerve agents are considered a likely choice. A deliberate or accidental nerve agent release could occur anywhere and at anytime in the United States. A release could require a large supply of nerve agent antidotes. The pre-positioning of CHEMPACK containers will expedite delivery of these nerve agent antidotes to a disaster site to save lives. CHEMPACK is a component of the Center for Disease Control and Prevention's Strategic National Stockpile.

### ***What medicines are in CHEMPACK?***

The medications in CHEMPACK are antidotes for nerve agents or organophosphate poisoning. The three medications in CHEMPACK are atropine, pralidoxime and diazepam in Mark 1 Kits and multi-dose vials. Mark 1 Kits are often used in the field. Multi-dose vials allow titrated treatment in hospitals. These medications could be used by emergency medical services (EMS), law enforcement and hospitals in Louisiana. CHEMPACK was designed to supplement and re-supply local and state responders in the event of a chemical emergency event.

### ***Where are the CHEMPACK assets?***

The CHEMPACK assets have been pre-positioned across Louisiana. The location of the CHEMPACK containers is kept confidential. This confidentiality protects these valuable medications and site that host them.

### ***How will CHEMPACK be used?***

It is expected that a nerve agent incident will be identified locally. CHEMPACK will be used by first responders in the field and by health care professionals in hospitals. The Louisiana Poison Control Center will provide consultation on symptoms of nerve agent or organophosphate poisoning with first responders and health care professionals. **The Louisiana Poison Control Center can be contacted 24/7 by telephoning 800-222-1222.**

Allocation of assets will be coordinated by the Louisiana Poison Center in the first hours of an incident. Pre-event planning has begun with local and state response partners. These include the Governor's Office of Homeland Security and Emergency Preparedness, parish Office of Homeland Security and Emergency Preparedness, Louisiana State Police, Louisiana Sheriff's Association, local law enforcement, the Department of Health and Hospital Office of Public Health, Bureau of Emergency Medical Service, EMS providers, Louisiana Hospital Association, hospitals and the Louisiana Poison Center. CHEMPACK will be an addition to existing state, regional, local and facility plans.

### ***Has CHEMPACK ever been used?***

The CHEMPACK assets have never been used to respond to a chemical terrorism event in the United States. These medications were used in 1995 following a sarin nerve agent attack on the Tokyo mass transit system. Pre-positioning and planning for the use of these nerve agent antidotes are an important part of chemical terrorism preparedness for the United States and Louisiana.

### ***Other Resources***

The Centers for Disease Control and Prevention has detailed information about the Strategic National Stockpile on its Web site at: <http://www.bt.cdc.gov/stockpile/>

## Appendix J: Sample CHEMPACK Health Alert Network

At [insert time] on [insert date] first responders are reporting persons with signs and symptoms of nerve agent or organophosphate poisoning at [insert location information]. Local assets will be used first. Medications from the federal cache, CHEMPAC include Mark 1 Kits, atropine, pralidoxime and diazepam. These medications and consultation on treatment is available by contacting the **Louisiana Poison Center at 800-222-1222**. Attached are general treatment guidelines for both pre-hospital and hospital settings. These guidelines do not supersede facility specific protocols.

### Treatment Guidelines for Pre-Hospital

#### Antidote Dosing based on Symptoms

- Diaphoresis, Diarrhea
- Urination
- Miosis
- Bradycardia, Bronchospasm, Bronchorrhea, Bronchoconstriction
- Emesis
- Lacrimation
- Salivation

Collectively, these “**DUMBBELS**” findings present clinically as abdominal distress and severe compromise of lung function due to excess secretions.

Exposure	Symptoms	Initial Dosing* (EMS/Field)	Repeat Dosing (Transport/Hospital)
Mild	<b>DUMBBELS</b> Agitation	Observe or MARK 1	Observe
Moderate	<b>DUMBBELS</b> Agitation Respiratory distress	2 Mark 1**	Atropine 5-10 min 2-PAM q 30-60 min
Severe	<b>DUMBBELS</b> Respiratory distress Seizures	3 MARK 1*** Diazepam	Atropine 5-10 min 2-PAM q 30-60 min Diazepam q 2-5 min

\* Consider the use of Mark1 Kits for infant/child/frail elderly **ONLY** in extraordinary circumstances if multi-dose not available, IV route not established and/or precise dosing is impossible.

\*\* As quick as possible, both drugs from the auto-injector, one right after the other.

## Treatment Guidelines for Hospitals

Patient	Mild/Moderate Effects <sup>1</sup>	Severe Effects <sup>2</sup>	Other Treatment
Child	<b>Atropine:</b> 0.05mg/kg IM or IV (minimum 0.1mg Maximum 5mg) AND <b>2-PAM:</b> 25mg/kg IM or IV (maximum 2Gm IM or 1Gm IV)	<b>Atropine:</b> 0.1mg/kg IM or IV (minimum 0.1mg, maximum 5mg) AND <b>2-PAM:</b> 50mg/kg IM or IV (maximum 2Gm IM or 1Gm IV)	Assisted ventilation for severe exposure.  <b>Repeat atropine</b> at 2-5 minute intervals until secretions have diminished and airway resistance has decreased.  <b>Repeat 2-PAM chloride</b> once at 30-60 minutes, then at one-hour intervals for 1-2 doses, as necessary.  <b>Diazepam</b> for seizures: Child - 0.05 to 0.3 mg/kg IV (maximum 10 mg); Adult - 5 mg IV <b>Other benzodiazepines (e.g. lorazepam)</b> may provide relief.
Adult	<b>Atropine:</b> 2 to 4 mg IM or IV AND  <b>2-PAM<sup>3</sup>:</b> 600mg IM, or 25mg/kg IV slowly	<b>Atropine:</b> 6mg IM AND  <b>2-PAM<sup>3</sup>:</b> 1800 mg IM, or 50mg/Kg IV slowly	Child - 0.05 to 0.3 mg/kg IV (maximum 10 mg); Adult - 5 mg IV <b>Other benzodiazepines (e.g. lorazepam)</b> may provide relief.  <b>Phentolamine</b> for 2-PAM chloride-induced hypertension: 1 mg IV for children; 5 mg IV for adults.

4. **Mild/Moderate effects of nerve agents** include localized sweating, muscle fasciculations, nausea, vomiting, weakness, dyspnea.
5. **Severe effects of nerve agents** include unconsciousness, seizures, apnea, flaccid paralysis.
6. Dose selection of 2-PAM chloride for elderly patients should be cautious (usually starting at 600 mg IM, or 25 mg/kg IV slowly) to account for the generally decreased organ functions in this population.

**NOTE:** 2-PAM chloride (2-PAM) is pralidoxime chloride, trade name Protopam®.

**CHEMPACK:** CHEMPACK is a federal program to provide nerve agent antidotes (Atropine, 2-PAM, Diazepam) to during an emergency.

**Additional Assistance:** Contact the **Louisiana Poison Center at 1-800-222-1222 or 318 813-3317** for additional information regarding dosing.