

**CENTER FOR DRUG EVALUATION AND  
RESEARCH**

***APPLICATION NUMBER:***

**20-414**

**APPROVED LABELING**

**PYRIDOSTIGMINE BROMIDE Tablets, USP**  
**30 mg**

Rx only

**CAUTION!**

**PYRIDOSTIGMINE BROMIDE IS FOR USE AS A PRETREATMENT FOR EXPOSURE TO THE CHEMICAL NERVE AGENT SOMAN. PYRIDOSTIGMINE ALONE WILL NOT PROTECT AGAINST EXPOSURE TO SOMAN. THE EFFICACY OF PYRIDOSTIGMINE IS DEPENDENT UPON THE RAPID USE OF ATROPINE AND PRALIDOXIME (2-PAM) AFTER SOMAN EXPOSURE.**

**PRIMARY PROTECTION AGAINST EXPOSURE TO CHEMICAL NERVE AGENTS IS THE WEARING OF PROTECTIVE GARMENTS INCLUDING MASKS, HOODS AND OVERGARMENTS DESIGNED SPECIFICALLY FOR THIS USE.**

**INDIVIDUALS MUST NOT RELY SOLELY UPON PRETREATMENT WITH PYRIDOSTIGMINE AND THE ANTIDOTES ATROPINE AND PRALIDOXIME (2-PAM) TO PROVIDE COMPLETE PROTECTION FROM POISONING BY THE CHEMICAL NERVE AGENT SOMAN.**

**PYRIDOSTIGMINE MUST NOT BE TAKEN AFTER EXPOSURE TO SOMAN. IF PYRIDOSTIGMINE IS TAKEN IMMEDIATELY BEFORE EXPOSURE (E.G., WHEN THE GAS ATTACK ALARM IS GIVEN) OR AT THE SAME TIME AS POISONING BY SOMAN, IT IS NOT EXPECTED TO BE EFFECTIVE, AND MAY EXACERBATE THE EFFECTS OF A SUB-LETHAL EXPOSURE TO SOMAN.**

**FOR MILITARY COMBAT MEDICAL USE ONLY**

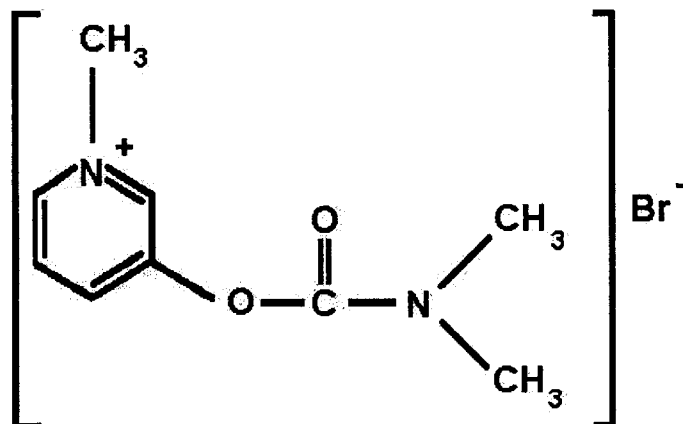
**DESCRIPTION**

Pyridostigmine bromide tablets, USP 30 mg. Pyridostigmine bromide is an orally active cholinesterase inhibitor. Its chemical name is: 3-hydroxy-1-methylpyridinium bromide dimethylcarbamate.

CAS registration number is 101-26-8.

White tablet each imprinted with letters "PBT".

Pyridostigmine bromide has a molecular formula of  $C_9H_{13}BrN_2O_2$ , a molecular weight of 261.12, and the following molecular structure:



The inactive ingredients included in the tablet formula are: colloidal silicon dioxide, lactose anhydrous, and stearic acid or, alternatively; lactose, starch, silica precipitated, talc, and magnesium stearate.

## ANIMAL PHARMACOLOGY

Evidence of the effectiveness of pyridostigmine as a pre-treatment for Soman poisoning was obtained from studies in animals alone, because it is clearly unethical to perform such studies in humans. While the results of these animal studies cannot be extrapolated to humans with certainty, the extrapolation is supported by the reasonably well understood pathophysiologic mechanisms of the toxicity of Soman and the mechanism of the protective effect of pyridostigmine pre-treatment, as examined in various animal species. In addition, the results of these animal studies establish that pyridostigmine is reasonably likely to produce clinical benefit in humans. The section below explains the current understanding of the mechanism of Soman toxicity and the beneficial effect of pyridostigmine pre-treatment, as well as the basis for extrapolating the animal findings to humans.

Pyridostigmine pretreatment has been shown in animals to decrease the lethality of the nerve agent Soman, provided atropine and pralidoxime (2-PAM) are administered immediately after exposure to Soman. The mechanism of Soman induced death is reasonably well-understood; death is believed to result primarily from respiratory failure due to irreversible inhibition of the enzyme acetylcholinesterase and the consequent increase in the level of the neurotransmitter acetylcholine 1) at nicotinic receptors at the neuromuscular junction, resulting in pathological stimulation and ultimate failure of the muscles of respiration, 2) at muscarinic receptors in

secretory glands and smooth muscle, resulting in excessive respiratory secretions and bronchoconstriction, and 3) at cholinergic receptors in the brain, resulting in central respiratory depression. The effect of pyridostigmine is presumed to result from its reversible inhibition of a critical number of acetylcholinesterase active sites in the peripheral nervous system, protecting them from irreversible inhibition by Soman. (Pyridostigmine is not thought to enter the brain in significant amounts.) When the pyridostigmine-induced inhibition of the enzyme is subsequently reversed, there is a small residual amount of enzyme activity that is adequate to sustain life (provided atropine and 2-PAM are subsequently administered). An implication of this presumed mechanism is that it is not helpful to give pyridostigmine either just before or during exposure to Soman.

Rhesus monkeys were given oral doses of pyridostigmine every 8 hours for a total of 6 doses, and were challenged with Soman given intramuscularly 5 hours after the last pyridostigmine dose. Two dosage groups of pyridostigmine were used: a low dose group given 1.2 mg/kg for all 6 doses, and a high dose group given 1.2 and 1.8 mg/kg for the first and second doses, respectively, and 2.4 mg/kg for the final 4 doses. These animals were also given atropine and 2-PAM after exposure to Soman. An untreated control group, and a group given atropine and 2-PAM (but not pyridostigmine), were also used. The primary endpoint in this study was a decrease in the lethality of Soman expressed as an increase in the LD 50 (the dose of Soman that killed 50 % of the animals). The atropine/2-PAM control group showed a small but statistically significant 1.6 fold increase in the Soman LD 50 compared to the untreated control group. The groups given pyridostigmine as well as atropine and 2-PAM showed increases in the Soman LD 50 of at least 40 fold compared to the untreated control group and at least 25 fold compared to the atropine/2-PAM group. The two dose levels of pyridostigmine showed similar effectiveness.

Additional studies in rhesus monkeys and guinea pigs also showed effectiveness of pyridostigmine (in the presence of post-Soman administration of atropine and 2-PAM). The magnitude of effect in guinea pigs was smaller than that in monkeys (Soman LD 50 increased 4-7 fold compared to untreated control and 2-4 fold compared to atropine/2-PAM alone). Pyridostigmine produced only small and inconsistent effects in studies in rats, mice and rabbits. It is thought that the effect of pyridostigmine in rats and mice is masked by high blood levels of the enzyme carboxylesterase, which eliminates Soman from blood and makes those species highly resistant to Soman. In a study in which rats were given an inhibitor of carboxylesterase, pretreatment with pyridostigmine plus atropine increased the LD 50 of Soman 8.5 fold compared to untreated controls. Humans have little or no carboxylesterase in blood.

Animal studies have shown that pyridostigmine pretreatment was effective only when animals were given atropine and 2-PAM after exposure to Soman.

## **CLINICAL PHARMACOLOGY**

### **Pharmacokinetics**

Pyridostigmine bromide is poorly absorbed from the gastrointestinal tract with an absolute bioavailability of 10-20%. Following a single oral dose of 30 mg pyridostigmine bromide in the fasting state, the  $T_{MAX}$  was  $2.2 \pm 1.0$  hours. The pharmacokinetics of pyridostigmine bromide is linear over the dose range of 30-60 mg. Following multiple doses of pyridostigmine bromide (30

mg every 8 hours for 21 days), the average steady-state trough concentration of pyridostigmine was about ¼ of the peak concentration after a single dose.

The volume of distribution was about  $19 \pm 12$  liters, indicating that pyridostigmine distributes into tissues. No information on protein binding of pyridostigmine is available.

Pyridostigmine undergoes hydrolysis by cholinesterases and is metabolized in the liver. It is excreted in the urine both as unchanged drug and its metabolites. The systemic clearance of pyridostigmine bromide is 830 mL/min and the elimination half-life of pyridostigmine bromide is approximately 3 hours.

### **Renal Dysfunction**

In anephric patients (n=4), the elimination half-life increased 3 fold and the systemic clearance decreased by 75%. Therefore caution should be observed when administering pyridostigmine bromide to patients with impaired renal function.

### **Hepatic Impairment**

No information is available on the pharmacokinetics of pyridostigmine in hepatic impaired patients.

### **Gender**

The clearance of pyridostigmine bromide is not influenced by gender.

### **Elderly**

In a pyridostigmine study in the elderly (71-85 years), the elimination half-life of pyridostigmine was similar to the half-life in the young (21-51 years). However, the systemic plasma clearance was 30% lower in the elderly.

## **INDICATIONS AND USAGE**

Pyridostigmine bromide is indicated for prophylaxis against the lethal effects of soman nerve agent poisoning. Pyridostigmine is intended to be used in conjunction with protective garments, including a gas mask, and immediate atropine and pralidoxime therapy at the first sign of nerve agent poisoning. Pyridostigmine should be stopped at the first sign of nerve agent poisoning.

The evidence for the effectiveness of pyridostigmine as prophylaxis against Soman-induced toxicity was derived from animal studies alone. (see ANIMAL PHARMACOLOGY)

## **CONTRAINDICATIONS**

Pyridostigmine bromide is contraindicated in mechanical intestinal or urinary obstruction.

Do not administer to personnel with known hypersensitivity to anticholinesterase agents

**WARNINGS (see CAUTION at beginning of this label)**

**Pyridostigmine pretreatment offers no benefit against the nerve agent Soman unless the nerve agent antidotes atropine and pralidoxime are administered once symptoms of poisoning appear. Pyridostigmine should be discontinued at the first sign of nerve agent poisoning since it may exacerbate the effects of a sub-lethal exposure to Soman.**

Pyridostigmine should be used with caution in patients with bronchial asthma, chronic obstructive pulmonary disease, bradycardia, cardiac arrhythmias, and people being treated for hypertension or glaucoma with beta adrenergic receptor blockers.

Caution should be taken when administering pyridostigmine bromide to individuals with known bromide sensitivity. The risks and benefits of administration must be weighed against the potential for rash or other adverse events in these individuals.

**PRECAUTIONS**

**General**

If personnel experience serious side effects such as difficult breathing, severe dizziness, or loss of consciousness as a result of ingestion of pyridostigmine bromide, they should be advised to temporarily discontinue use of product and seek immediate medical attention. Serious adverse events should be reported to their commander and responsible medical officer.

**Information for Patients**

See Patient Information Sheet.

**Drug Interactions**

A potential interaction between the antimalarial drug mefloquine and pyridostigmine bromide exists through a possible additive effect on the gastrointestinal tract. The most common complaint about both drugs is loose bowels. It has been reported that simple additive effects on the atrial rate occur when mefloquine and pyridostigmine bromide are combined.

Because anticholinesterase drugs are often used in the treatment of glaucoma, the use of pyridostigmine bromide in such situations may have an additive effect that may cause or exacerbate problems with night vision.

The bradycardia associated with the use of narcotics may exacerbate pyridostigmine-induced bradycardia.

Particular caution should be observed in the administration of depolarizing neuromuscular blocking agents (e.g., succinylcholine) during surgery since the degree of neuromuscular blockade that ensues may be enhanced by previously administered pyridostigmine bromide. Doses of non-depolarizing neuromuscular blocking agents (e.g., pancuronium bromide) may need to be increased in patients previously administered pyridostigmine. Atropine antagonizes the muscarinic effects of pyridostigmine, and this interaction is utilized to counteract the muscarinic symptoms of pyridostigmine toxicity. Anticholinesterase agents are sometimes effective in reversing neuromuscular block induced by aminoglycoside antibiotics. However, aminoglycoside antibiotics, local and some general anesthetics, antiarrhythmic agents, and other drugs that interfere with neuromuscular transmission should be used cautiously, if at all. Theoretically, drugs such as dexpanthenol, which are converted to pantothenic acid *in vivo*, may have additive effects with pyridostigmine by increasing production of acetylcholine.

### **Carcinogenesis, Mutagenesis, Impairment Of Fertility**

*Carcinogenicity:* No long-term studies to evaluate carcinogenicity have been performed in animals.

*Mutagenicity:* Pyridostigmine was mutagenic and clastogenic in an *in vitro* mammalian gene mutation assay in mouse lymphoma cells, in the presence of metabolic activation only. Pyridostigmine was not mutagenic in an *in vitro* bacterial reverse mutation assay (Ames Test) and in an *in vitro* mammalian gene mutation assay in Chinese hamster ovary cells, and was not clastogenic in an *in vitro* assay in Chinese hamster ovary cells or in an *in vivo* mouse micronucleus assay.

*Impairment of Fertility:* Pyridostigmine did not impair fertility in male and female rats given oral doses of up to 45 mg/kg/day (5 times the recommended human daily dose of 90 mg on a mg/m<sup>2</sup> basis) beginning at 10 (males) or 2 (females) weeks prior to mating.

### **Pregnancy Pregnancy Category B**

Pyridostigmine produced no teratogenic effects in rats given up to 30 mg/kg/day and in rabbits given up to 45 mg/kg/day orally during the period of organogenesis. These doses are 3 and 10 times, respectively, the recommended human dose of 90 mg on a mg/m<sup>2</sup> basis. In rats, a slight degree of delayed skeletal ossification was seen at 30 mg/kg, a dose which caused maternal toxicity, and a slight increase in the incidence of hydronephrosis was seen at all dose levels (lowest dose tested was 3 mg/kg). In rabbits, a slight increase in the incidence of hydronephrosis was seen at 45 mg/kg, a dose which caused maternal toxicity, and increased incidences of blood vessel variations were seen at all doses (lowest dose tested was 5 mg/kg). There are no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

### **Nursing Mothers**

It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk caution should be exercised when pyridostigmine is administered to a nursing woman.

### **Pediatric Use**

Safety and effectiveness in pediatric patients have not been established.

### **Geriatric Use**

Clinical studies of pyridostigmine did not contain sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. In general, dose selection for an elderly patient should be cautious, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

In the elderly (71-85 years of age) the elimination half-life, volume of distribution (central and steady state) were comparable with the young (21-51 years of age). However the systemic plasma clearance was significantly lower in the elderly compared to the young ( $6.7 \pm 2.2$  vs.  $9.5 \pm 2.7$  ml/min/kg).

This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function.

## **ADVERSE REACTIONS**

The side effects of pyridostigmine bromide are typically of two varieties, muscarinic and nicotinic. Muscarinic side effects include abdominal cramps, bloating, flatulence, diarrhea, emesis, increased peristalsis, nausea, hypersalivation, urinary incontinence, increased bronchial secretion, diaphoresis, miosis, and lacrimation. Nicotinic side effects are comprised chiefly of muscle cramps, fasciculations, and weakness.

Pyridostigmine is a quaternary ammonium compound and does not readily cross the blood-brain barrier. Compared to the peripheral effects of pyridostigmine bromide, central nervous system manifestations are less frequent and less serious, primarily consisting of headache and vertigo, with minor and clinically insignificant changes in heart rate, blood pressure, and respiratory function.

Extremely high doses may produce CNS symptoms of agitation, restlessness, confusion, visual hallucinations, and paranoid delusions. Electrolyte abnormalities, possibly resulting from high serum bromide concentrations, also have been reported. Death may result from cardiac arrest or respiratory paralysis and pulmonary edema.



In a controlled study of 90 healthy volunteers comparing pyridostigmine 30 mg every 8 hours to placebo for 21 days, the following incidence of adverse events was reported.

**Table 1 Incidence of Adverse Events • 2%**

Event:	% Pyridostigmine N = 60	% Placebo N = 30
Diarrhea	7	0
Abdominal Pain	7	0
Dysmenorrhea	5	0
Twitch	3	0
Myalgia	2	0
Dry Skin	2	0
Urinary Frequency	2	0
Epistaxis	2	0
Amblyopia	2	0
Hypesthesia	2	0
Neck pain	2	0

Other less common adverse events seen during controlled and uncontrolled clinical trials for pyridostigmine include the following:

- *Pulmonary:* Exacerbation of acute bronchitis and asthma
- *Cardiovascular:* Elevated blood pressure, decreased heart rate (4-6 beats per minute), chest tightness
- *Eyes:* Change in vision, eye pain
- *Neurologic:* Headache, hypertonia, difficulty in concentrating, confusion, disturbed sleep, tingling of extremities, numbness of the tongue
- *Skin:* Increased sweating, rash, alopecia
- *Digestive:* Vomiting, borborygmi, nausea, bloating, flatulence
- *General:* Warm sensation, lethargy/drowsiness, depressed mood

During safety studies at the recommended dosage, there were two reports of loss of consciousness, one of which also included urinary and fecal incontinence, stiffness of the upper torso and arms, post syncopal skin pallor, post syncopal confusion, and post syncopal weakness (suggesting a seizure event).

As with any compound containing bromide, a skin rash may be observed in an occasional patient, which usually subsides promptly upon discontinuance of the medication.

## **DRUG ABUSE AND DEPENDENCE**

Although the abuse potential of pyridostigmine has not been specifically assessed, no abuse of, tolerance to, withdrawal from, or drug-seeking behavior was observed in patients who received pyridostigmine in clinical trials. Cholinesterase inhibitors are not believed to be associated with drug abuse.

## **OVERDOSAGE**

As is true of all cholinergic drugs, overdosage of pyridostigmine bromide may result in cholinergic crisis, a state characterized by increasing muscle weakness that, through involvement of the muscles of respiration, may lead to death. Overdosage with pyridostigmine must be differentiated from the acute manifestations of nerve agent poisoning which may also be characterized by a cholinergic crisis. Atropine should be used to treat pyridostigmine overdosage.

In the treatment of pyridostigmine overdosage, maintaining adequate respiration is of primary importance. Tracheostomy, bronchial aspiration, and postural drainage may be required to maintain an adequate airway; respiration can be assisted mechanically if required. Supplemental oxygen may be necessary. Pyridostigmine should be discontinued immediately and 1-4 mg of atropine sulfate administered i.v. Additional doses of atropine may be given every 5-30 minutes as needed to control muscarinic symptoms. Atropine overdosage should be avoided, as tenacious secretions and bronchial plugs may result. It should be kept in mind that unlike muscarinic effects, the skeletal muscle effects and consequent respiratory paralysis (nicotinic effects) which can occur following pyridostigmine overdosage are not alleviated by atropine.

## **DOSAGE AND ADMINISTRATION**

**PYRIDOSTIGMINE BROMIDE IS FOR USE AS A PRETREATMENT FOR EXPOSURE TO THE CHEMICAL NERVE AGENT SOMAN. PYRIDOSTIGMINE ALONE WILL NOT PROTECT AGAINST EXPOSURE TO SOMAN. THE EFFICACY OF PYRIDOSTIGMINE IS DEPENDENT UPON THE RAPID USE OF ATROPINE AND PRALIDOXIME (2-PAM) AFTER SOMAN EXPOSURE.**

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**PYRIDOSTIGMINE MUST NOT BE TAKEN AFTER EXPOSURE TO SOMAN. IF PYRIDOSTIGMINE IS TAKEN IMMEDIATELY BEFORE EXPOSURE (E.G., WHEN THE GAS ATTACK ALARM IS GIVEN) OR AT THE SAME TIME AS POISONING BY SOMAN, IT IS NOT EXPECTED TO BE EFFECTIVE, AND MAY EXACERBATE THE EFFECTS OF A SUB-LETHAL EXPOSURE TO SOMAN.**

The dose of pyridostigmine is one 30 mg tablet every 8 hours to be started at least several hours prior to exposure to Soman. At the first sign of nerve agent poisoning, pyridostigmine should be discontinued and treatment with atropine and pralidoxime should be instituted immediately.

There is no known advantage to taking pyridostigmine just prior to or concurrent with Soman exposure. According to the mechanism of action of pyridostigmine described above (see ANIMAL PHARMACOLOGY section), pyridostigmine should be effective when it is given sufficiently in advance of Soman poisoning to provide a pool of protected enzyme. Therefore, it is expected that pyridostigmine will not be effective if administered just prior to or during exposure to Soman.

The effects of use beyond 14 consecutive days have not been definitively established, therefore, continued use beyond 14 consecutive days should be evaluated in the context of the likelihood of exposure to Soman nerve agent.

### **HOW SUPPLIED**

NSN 6505-01-178-7903\* Immediate Container. Twenty-one (21) tablets individually sealed in a blister or strip package which is supplied in a protective sleeve.

\*The NSN refers to the actual unit that is ordered from supply (if someone orders 1 of this stock number they will get one mylar bag as a unit of issue (or one package of 10 blister packs). The exterior carton lists the NSN and the description of the product that the NSN applies to and lists 10 PG (packages) as the quantity within the carton.

### **STORAGE**

Store refrigerated between 2 and 8<sup>0</sup>C (36-46<sup>0</sup>F). Protect from light.

Do not dispense the content of unit packages (10 blister packs) and shipping containers (10 packages of 10 each blister packs) after removal from refrigeration for more than a total of 3 months. Do not use after the 10 year expiration date provided on the package. Military personnel should be advised to discard the contents of the individual unit packages of pyridostigmine 3 months after issue.

### ***For Military Use Only***

Distributed by:       Defense Supply Center, Philadelphia  
                              Medical Directorate  
                              700 Robbins Ave  
                              Philadelphia, PA 19111

For:                     Office of The Surgeon General  
                              U.S. Army Medical Research  
                              and Materiel Command (MCMR-RCQ-RA)  
                              504 Scott Street  
                              Fort Detrick, MD 21702-5012

Package Insert Revised [month/day/year]

**Important Information**  
February, 2003

**Rx Only**

## **Pyridostigmine Bromide (PB) 30 mg** **Protection Against Chemical Warfare Agents**

Pyridostigmine bromide is approved for protection against the chemical nerve agent Soman (GD). Other chemical nerve agents include Sarin (GB), Tabun (GA) and VX. Nerve agents work by making your muscles weak. They can make you lose control of your muscles. You can die if your breathing muscles are paralyzed.

**Your main protection against chemical weapons is your chemical protective mask and battle dress overgarment.** You also have other items to help you if you are exposed to chemical warfare agents. These items are:

- a. Two antidotes (atropine and 2-PAM) that are part of the MARK I Nerve Agent Antidote Kit or ATNAA (Antidote Treatment – Nerve Agent Autoinjector)
- b. Pyridostigmine Bromide (PB) — PB is approved as a pretreatment against a Soman nerve agent attack. The approval is based on safety studies in humans and effectiveness (how well it works) studies conducted in animals. The FDA has approved PB based only on animal studies of effectiveness because it is not ethical to do these studies in humans. Human studies would require exposing people to the deadly effects of nerve agents, risking poisoning them or even killing them. Studies in monkeys and guinea pigs show that pretreatment with PB makes the antidotes (atropine and 2-PAM) work better against Soman (GD). PB pretreatment in animals has not been shown to make the antidotes (atropine and 2-PAM) work better against other nerve agents. Based on the animal studies of whether PB works against Soman, it is thought that any potential benefits from use of PB occur only if:
  - (1) PB is taken within 8 hours before, but not right before, exposure to the nerve agent Soman. (If PB is taken right before (when the nerve gas attack alarm is given) or during nerve agent exposure, it may not work and may make the effects of Soman worse.)
  - (2) Atropine and 2-PAM are used when symptoms of nerve agent poisoning occur.

### **How To Take Your PB**

1. Your chain of command will tell you when it is time to take PB. This decision will be based on the threat of exposure to Soman nerve agents.
2. You must take 1 tablet of PB every 8 hours until your chain of command tells you to stop taking PB.
3. Do not take PB more often than you are told. **Do not double up on your dose if you miss taking it.**
4. There is no known advantage to taking extra PB right before Soman exposure.
5. No further PB should be taken after nerve agent exposure has occurred, instead:

6. If you experience most or all of the **MILD** symptoms of nerve agent poisoning, you should **IMMEDIATELY** hold your breath (**DO NOT INHALE**) AND PUT ON YOUR PROTECTIVE MASK. Then administer atropine and 2-PAM (*one* MARK I kit or *one* ATNAA).
7. Contact your unit medical officer if side effects from PB continue and limit duty performance.

### **Who should not take PB**

Do not take PB if you:

- have a history of bowel or bladder blockage (obstruction)
- are overly sensitive to anticholinesterase medicines (certain drugs used during surgery like physostigmine, edrophonium, neostigmine, and ambenonium)

Tell your doctor or medic before taking PB if you:

- are pregnant
- have asthma
- are allergic to bromide
- take blood pressure medicine
- have high eye pressure (glaucoma)

Also, tell your doctor about all your other medical conditions you may have including heart problems, or reflux esophagitis (GERD).

### **Side Effects**

- stomach cramps
- gas
- diarrhea
- nausea
- frequent urination
- increased salivation
- sweating
- headaches
- dizziness
- watery eyes
- blurred vision
- runny nose
- difficulty or tightness in breathing
- acid stomach (including heartburn or reflux)
- tingling of fingers, toes, arms, and legs
- muscle twitching or weakness
- muscle cramps

Most side effects are mild and will go away without treatment. If your side effects do not go away, see your unit doctor or medic.

This is not a complete list of symptoms that may occur. See your unit doctor right away if your side effects are very bad or for any symptoms that concern you.

PB has been safely used and has been FDA approved for over 40 years in the U.S. to treat a disease called myasthenia gravis (MG). Human studies of PB at doses intended for military use have found PB to be generally safe.

**About your rights and welfare:** DOD may collect information on the use of PB to help decide how best to protect deployed forces in the future. Information that identifies you will remain private (confidential). However, the FDA may review any data collected by DOD for the purpose of evaluating PB. Direct questions about your rights and welfare to your unit medical officer, or e-mail questions to [hsrrb@det.amedd.army.mil](mailto:hsrrb@det.amedd.army.mil).

**For more information about PB:** Talk to your unit medical officer or medic. You can also e-mail questions about PB directly to the U.S. Army Medical Research and Materiel Command at address [hsrrb@det.amedd.army.mil](mailto:hsrrb@det.amedd.army.mil).

Distributed by:        Defense Supply Center, Philadelphia  
                              Medical Directorate  
                              700 Robbins Ave  
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For:                      Office of The Surgeon General  
                              U.S. Army Medical Research  
                              and Materiel Command (MCMR-RCQ-RA)  
                              504 Scott Street  
                              Fort Detrick, MD 21702-5012

**A. Immediate Container Label**

Front of a Cardboard Sleeve Containing 1 Blister Pack of 21 Tablets

**21 TABLETS**

**PYRIDOSTIGMINE BROMIDE USP 30 mg**  
(Soman Nerve Agent Pre-Treatment Tablets)  
NSN 6505-01-178-7903

Rx only

Directions for use:

1. START TAKING ONLY WHEN ORDERED BY YOUR COMMANDER
2. TAKE ONE (1) EVERY EIGHT (8) HOURS
3. IT IS DANGEROUS TO EXCEED THE STATED DOSE

ICN Canada Limited, Montreal, Quebec H4M 1V1

Lot No.: XXXX  
Expiration Date: XXXX  
**DISCARD CONTENTS 3 MONTHS  
AFTER ISSUE**

Back of a Cardboard Sleeve Containing 1 Blister Pack of 21 Tablets

Before using, **READ** enclosed **INFORMATION**.

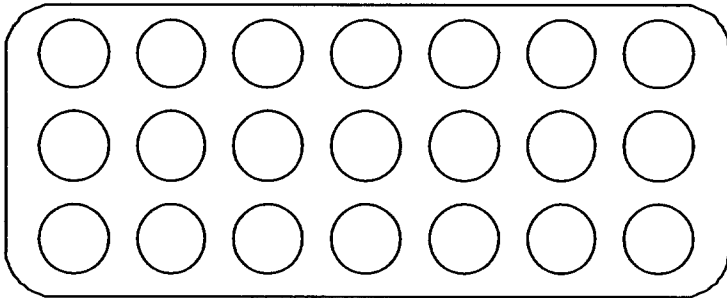
**PB is indicated for pre-treatment against Soman nerve agent.**

PB is taken before potential exposure to Soman. If you are exposed to nerve agent and have symptoms, you must use your nerve agent antidotes (atropine and pralidoxime provided in the MARK I Nerve Agent Antidote Kit or the ATNAA). **Do NOT take PB after exposure to nerve agents.**

**Warning:** If you have asthma, are pregnant, are allergic to bromide, or are taking medicine for high blood pressure or glaucoma, see your unit doctor before taking PB.

**Pyridostigmine** may cause stomach cramps, diarrhea, nausea, frequent urination or headaches, dizziness, shortness of breath, worsening of peptic ulcer disease, and lacrimation (eye tearing). Seek medical attention if these or other symptoms persist or worsen.

Front of 1 Blister Pack of 21 Tablets



Back of 1 Blister Pack of 21 Tablets

**PYRIDOSTIGMINE BROMIDE USP 30 mg**  
(Soman Nerve Agent Pre-Treatment Tablets)  
NSN 6505-01-178-7903 ICN Canada Limited  
**Lot: XXXX Exp. Date: XXXX**  
DISCARD CONTENTS 3 MONTHS AFTER ISSUE  
**PYRIDOSTIGMINE BROMIDE USP 30 mg**  
(Soman Nerve Agent Pre-Treatment Tablets)  
NSN 6505-01-178-7903 ICN Canada Limited  
**Lot: XXXX Exp. Date: XXXX**  
DISCARD CONTENTS 3 MONTHS AFTER ISSUE



**B. Outer Package Labels**

Label on the Exterior of a Mylar Pouch Containing 10 Blister Packs  
**(1 PG = 1 Package (1 Pouch) of 10 Blister Packs of 21 PB Tablets)**

**10 BLISTERS OF 21 TABLETS**

**1 PG**

**PYRIDOSTIGMINE BROMIDE**

**TABLETS, USP, 30 MG, 210's**

(Soman Nerve Agent Pre-Treatment Tablets)

NSN 6505-01-178-7903

**Rx Only**

Lot No.: XXXXX

Expiration Date: XXXXX

**DISCARD AFTER REMOVAL FROM  
REFRIGERATION FOR MORE THAN A  
TOTAL OF THREE MONTHS**

Label on Exterior of a Carton Containing 10 Mylar Pouches, Each Pouch Containing 10  
Sleeves of 10 Blister Packs of PB

**(10 PG = 10 Packages (10 Pouches of 10 Blister Packs of 21 PB Tablets))\***

NSN 6505-01-178-7903

**10 BLISTERS OF 21 TABLETS**

**PYRIDOSTIGMINE BROMIDE**

**TABLETS, USP, 30 MG, 210's**

**10 PG**

(Soman Nerve agent pre-treatment tablets)

SP0200-00D-0012-8001

STORE BETWEEN

2 DEGREES - 8 DEGREES C

(36 DEGREES - 46 DEGREES F)

The contents are not to be used if the unit of issue

(package) is removed from refrigeration for more

than a total of three months.

**Rx Only**

WT 4

CV 0.3

Lot No.: XXXX

Expiration Date: XXXX

ICN Canada Limited, Montreal,

Quebec H4M 1V1

\*The NSN refers to the actual unit that is ordered from supply (if someone orders 1 of this stock number they will get one mylar bag as a unit of issue (or one package of 10 blister packs). The exterior carton lists the NSN and the description of the product that the NSN applies to and lists 10 PG (packages) as the quantity within the carton.