



U.S. ARMY CHEMICAL
MATERIALS AGENCY

FACT SHEET

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Blue Grass Chemical Activity

Nerve Agent GB (Sarin)



An exterior view of an igloo storing chemical weapons at Blue Grass Army Depot. *Inset:* A placard denotes the type of agent contained within an igloo.

For more information,
contact the
**Blue Grass Chemical Activity
Public Affairs Office**
(859) 779-6897

or the
CMA Public Affairs Office
(800) 488-0648

Nerve agent GB (Sarin) is an organophosphate compound. It is a clear to amber liquid that is odorless and tasteless with an appearance similar to that of water. When released from the munition, GB readily evaporates creating a vapor hazard. It was designed specifically to present a vapor (respiratory) hazard, however, it can be absorbed through the skin or ingested in liquid form with lethal effect. GB is considered to be a non-persistent agent. If released, the liquid would not be expected to stay in the environment for a long period of time. It evaporates at about the same rate as water. Persistency of this agent is mainly dependent on the

amount of agent present and weather conditions. High temperature, humidity, wind and moisture lead to less persistency.

GB is a rapid-acting, lethal nerve agent that affects the nervous system by interfering with the signals sent from the brain to the vital organs and other parts of the body. GB affects the body by blocking the action of the enzyme acetylcholinesterase (ACh). When the enzyme is blocked, messages from the brain are short-circuited at the nerve endings. As a result, hyperactivity occurs in the organs stimulated by the nerves.

Severity of GB poisoning generally depends on the dosage received and the route of exposure.



Nerve Agent GB (Sarin)

Symptoms of GB poisoning consist of the following:

1. Pinpointed pupils
2. Runny nose
3. Difficulty in breathing
4. Nausea
5. Vomiting
6. Involuntary urination
7. Involuntary defecation
8. Localized involuntary muscular movement
9. Convulsions
10. Cessation of breathing

Atropine and 2-PAM Chloride are pharmaceutical antidotes that relieve the symptoms of GB exposure. They must be injected immediately after exposure to be effective.

Decontamination procedures must be followed prior to handling or providing first aid to someone suspected of agent exposure. A solution of common household bleach and water, followed by a water rinse, can be used to decontaminate the skin where contact was made with GB. Only clean water (no bleach or other chemicals) should be used to remove agent from the eyes.

Long term effects of GB poisoning are not fully understood. With more serious exposures, long term psychiatric effects such as depression and anxiety may be present for weeks and then disappear. This agent is not known to cause cancer or birth defects.