

NERVE AGENT GB (SARIN)

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 water. When released from a 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 a nonpersistent agent. If released, the liquid would not be expected to stay in the environment for long. 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 reduce 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.

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 that contacted 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.

Symptoms of GB poisoning

Pinpointed pupils	Localized involuntary muscular movement
Runny nose	Convulsions
Difficulty breathing	Cessation of breathing
Nausea	Involuntary defecation
Vomiting	
Involuntary urination	

