



National Gulf War Resource Center gives this information out free for all veterans.



## CHEMICAL WARFARE AGENT

### **Background, Sarin, cyclosarin and mustard gas:**

Sarin and cyclosarin are both organophosphorous esters and organophosphates. Sarin was originally created as an insecticide in Germany. However, Germany refrained from using sarin as a chemical weapon during World War II, even though sarin's effectiveness was known at that time. The first battlefield use was during the Iran-Iraq conflict of the 1980s.<sup>1</sup>

Organophosphates act on the chemistry of the nervous system by inhibiting the function of acetylcholinesterase (AChE), causing a breakdown of the autonomic and sensory-somatic systems.

*Historical Perspective* – The NGWRC, our member groups, and many individual veterans uncovered documented chemical incidents and casualties using Congressional reports, the Freedom of Information Act (FOIA), and anecdotal information from individual veterans. Due to this collaboration, in 1997 the DOD and VA were forced to admit that over 140,000 U.S. troops were exposed to low-levels of sarin, cyclosarin, and mustard agents during the demolition of an Iraqi military bunker complex at the Khamisiyah depot in March 1991. This clearer picture emerged, because NGWRC exposed DOD statistical manipulations that obscured a group of veterans who were ten times more likely to have died after being exposed to chemical agents.

The NGWRC research campaign resulted in the DOD revamping their entire Gulf War Illnesses investigation. By 1999, the DOD employed a staff of more than 150 to investigate the thousands of toxic exposure incidents, many brought to light by NGWRC research volunteers. Our research revealed the following:

- ◆ **The U.S. Departments of State, Defense, and Commerce allowed the shipment of dual-use chemical precursors and technology to Iraq until 1990 (for use against Iran).**
- ◆ **Possible offensive use of chemical warfare agents by Iraq against Israel, according to Central Command Nuclear, Biological, and Chemical incident log (CENTCOM NBC log) compiled between January and March 1991;**
- ◆ **Possible deployment of chemical warfare agent land mines by Iraq, according to CENTCOM NBC log;**
- ◆ **Deployment of chemicals to southern Iraq and northern Kuwait by Iraq, according to a casualty report on March 5, 1991;**
- ◆ **Exposure of Coalition troops and civilians to chemicals due to Coalition bombings of Iraqi manufacturing and storage facilities during the air war, according to a report and Senate investigation led by former Senator Donald Reigle; and**
- ◆ **Exposure of troops to chemicals from artillery and other bombardment and/or exposure of troops to chemicals due to post-cease fire demolitions, according the CENTCOM NBC log.**

In spite of the overwhelming evidence of widespread poison gas exposures, the DOD continued to minimize the seriousness of these exposures. Documented evidence suggests the Pentagon possessed prior knowledge, before the air war, of the possibility of chemical releases and the subsequent health problems potentially caused by exposure to low-level chemical warfare agents, according to a report prepared by the Lawrence Livermore Laboratory in California.

In 1996, the NGWRC called for the appointment of a special prosecutor from the Department of Justice to investigate the misplacement, concealment, or destruction of government documents related to chemical and biological agent incidents and exposures. One obstacle to veterans' making headway in dealing with chemical exposures has been the DOD's policy that a soldier must experience visible and severe effects (such as death) for the exposure to be real.

A law passed in 1998 was intended to provide new chemical alarms, other new equipment, and better training and awareness for soldiers as result of the low-level chemical exposure doctrine review. It also mandated further research by the Institutes of Medicine into causes of Gulf War Illness, using animal and human studies. According to testimony by RAC Director, James Binns, that research was restricted to human studies, none of which supported low-level exposures. Various animal studies, however, do support that permanent brain injury can occur from low-level exposure. See studies @ <http://www1.va.gov/RAC-GWVI/page.cfm?pg=80> for more information.

***Status of Investigations and Epidemiological Research*** – Numerous studies disproved the DOD notion that only immediately visible, severe symptoms provide evidence of exposure to chemical agents. Indeed, a study published in 2007 May concluded that exposure to sarin gas, pyridostigmine bromide (PB) and insect repellants is responsible for conditions known as “Gulf War Illness.”

See: [http://www.armytimes.com/news/2007/05/military\\_sarin\\_gulfwar\\_070525w/](http://www.armytimes.com/news/2007/05/military_sarin_gulfwar_070525w/),  
<http://www.deploymentlink.osd.mil/deployed/projectDetail.jsp?projectId=416&region=0&researchTopic=11&majorDeployment=0&researchSubTopic=25>,  
and [http://www.nbc-prevention.org/en/download/\\_document/sekowski.pdf](http://www.nbc-prevention.org/en/download/_document/sekowski.pdf).

**The Bottom Line on sarin:** Evidence presented here is what the IOM committee needed to draw a connection between low-level sarin and GWI. The IOM committee now has that evidence and can reevaluate their earlier conclusions. Understanding this exposure will also allow the Secretary of Veterans Affairs to assure current troops that if they get wounded by nerve gas in Iraq, the VA system will take care of them. NGWRC is pressing the VA to award presumptive service-connected disability to Gulf War veterans exposed to chemical agents.

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<sup>1</sup> *Gulf War and Health, Volume 1*