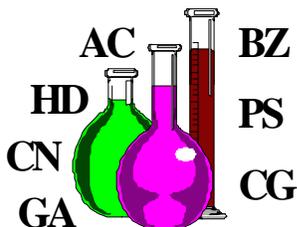


U.S. Army Center for Health Promotion and Preventive Medicine



General Facts About Nerve Agent VX

218-29-1096

General

Nerve agent VX is a persistent, nonvolatile agent that is primarily a liquid exposure hazard to the skin or eyes, although small amounts of VX vapor may be generated under extremely high temperatures. VX affects the body by blocking the action of the enzyme acetylcholinesterase. When this enzyme is blocked, large amounts of the chemical acetylcholine build up at critical places within the nervous system, causing hyperactivity of the body organs stimulated by these nerves. The signs and symptoms of exposure to Nerve agent VX depend upon the *route of exposure* and the *amount of exposure*. VX is a lethal anticholinesterase agent. Its toxic hazard is high for inhalation, ingestion, and eye and skin exposure, but due to its low volatility, the primary route of exposure is through ingestion or skin contact. Its rate of detoxification in the body is low.

Synonyms

Phosphonothioic acid, methyl-, S-(2-bis(1-methylethylamino)ethyl) O-ethyl ester;
O-ethyl S-(2-diisopropylaminoethyl) methylphosphonothioate;
S-2-Diisopropylaminoethyl O-ethyl methylphosphonothioate;
S-2(2-Diisopropylamino)ethyl O-ethyl methylphosphonothiolate;
O-ethyl S-(2-diisopropylaminoethyl) methylphosphonothioate;
O-ethyl S-(2-diisopropylaminoethyl) methylthiolphosphonoate;
VX;
EA1701;
TX60.

Description

Nerve agent VX is an oily liquid that is clear, odorless, and tasteless. It is amber colored similar in appearance to motor oil.

Overexposure Effects

Signs and symptoms of overexposure may occur within minutes or hours depending upon dose. They include: miosis (constriction of

pupils) and visual effects, headache and pressure sensation, runny nose and nasal congestion, salivation, tightness in the chest, nausea, vomiting, giddiness, anxiety, difficulty in thinking, difficulty sleeping, nightmares, muscle twitches, tremors, weakness, abdominal cramps, diarrhea, involuntary urination and defecation. Signs of severe exposure can progress to convulsions and respiratory failure.

Emergency and First Aid Procedures

Inhalation: hold breath and don respiratory protection mask; administer immediately, in rapid succession, all three Nerve Agent Antidote Kits, Mark I injectors if severe signs of agent exposure appear; use mouth-to-mouth resuscitation when approved mask-bag or oxygen delivery systems are not available, but do not use mouth-to-mouth resuscitation when facial contamination exists; if breathing is difficult, administer oxygen; seek medical attention immediately.

Eye Contact: flush eyes immediately with water for 10-15 minutes, then don a respiratory protective mask. Although miosis may be an early sign of agent exposure, do not administer an injection when miosis is the only sign present; seek medical attention immediately.

Skin Contact: don respiratory mask and remove contaminated clothing; wash contaminated skin with copious amounts of soap and water immediately using 10 percent sodium carbonate solution, or 5 percent liquid household bleach; rinse well with water to remove decontamination; if local sweating and muscular symptoms occur, administer an intramuscular injection with the MARK I Kit; seek medical attention immediately.

Ingestion: do not induce vomiting; first symptoms are likely to be gastrointestinal; administer immediately 2 milligrams intramuscular injection of the MARK I Kit auto injectors; seek medical attention immediately.

Storage of VX

Nerve agent VX can be found in ton containers (heavy steel cylinders), artillery shells, mortar projectiles, rockets, and land mines. VX is stockpiled at Anniston Army Depot, AL; Blue Grass Army Depot, KY; Newport Army Ammunition Plant, IN; Pine Bluff Arsenal, AR; Tooele Army Depot, UT; and Umatilla Depot Activity, OR.

For more information, contact:
Kenneth E. Williams
USACHPPM
Aberdeen Proving Ground, MD 21010-5422
Commercial (410) 671-2208; DSN: 584-2208
email: kwilliam@aeha1.apgea.army.mil