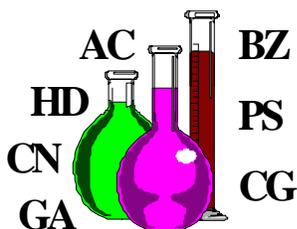


U.S. Army Center for Health Promotion and Preventive Medicine



General Facts About Blister Agent Mustard-Lewisite Mixture (HL)

218-39-1096

General

HL is a lethal vesicant and alkylating agent producing cytotoxic action on the hematopoietic (blood-forming) tissues. Mustard-Lewisite mixture is a variable of HD and L which provides a low-freezing mixture for use in cold weather operations or as high-altitude spray.

Synonyms

Sulfur Mustard/Lewisite;
HL.

Description

HL is a liquid mixture of mustard (HD) and Lewisite (L) designed to provide a low freezing point for use in cold weather and high altitudes. The eutectic mixture (lowest freezing point) is 63% lewisite and 37% mustard. HL has a garlic-like odor from its HD content.

Overexposure Effects

HL is a vesicant and alkylating agent producing cytotoxic action on the hematopoietic (blood-forming) tissues, which are especially sensitive. The rate of detoxification of HL in the body is very slow, and repeated exposure produces a cumulative effect. Contamination of the skin produces immediate stinging of the skin, turning red within 30 minutes. Blistering is delayed for about 13 hours and tends to cover the entire area of reddened skin. Blisters from HL exposures are deeper and more painful than with HD. Local action on the eyes is extremely rapid and produces severe necrotic damage and loss of eyesight. Exposure of eyes to HL vapor or aerosol produces lacrimation, photophobia, and inflammation of the conjunctiva and cornea. When HL vapor/aerosol is inhaled, the respiratory tract becomes inflamed after a few hours latency period, accompanied by sneezing, coughing, and bronchitis, diarrhea, and fever. The respiratory damage is similar to that produced by mustard, except in the most severe cases. In these cases, fluid in the chest cavity may

accompany fluid in the lungs. HL is absorbed through skin contact and inhalation of vapors, causing systemic toxicity such as damage to the lungs, bone marrow, lymph nodes, spleen, and endocrine system.

Emergency and First Aid Procedures

Inhalation: remove from the source immediately; give artificial respiration if breathing has stopped; administer oxygen if breathing is difficult; seek medical attention immediately.

Eye Contact: speed in decontaminating the eyes are absolutely essential; remove person from the liquid source; flush the eyes immediately with water by tilting the head to the side, pulling the eyelids apart with the fingers and pouring water slowly into the eyes; do not cover eyes with bandages; but if necessary, protect eyes by means of dark or opaque goggles; seek medical attention immediately.

Skin Contact: don respiratory protective mask and gloves; remove victim from agent source immediately; flush skin and clothes with 5 percent solution of sodium hypochlorite or liquid household bleach within one minute; cut and remove contaminated clothing; flush contaminated skin area again with 5 percent sodium hypochlorite solution, then wash contaminated skin area with soap and water; wash thoroughly if shower facilities are available; seek medical attention immediately.

Ingestion: do not induce vomiting; give victim milk to drink; seek medical attention immediately.

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