

**Florida Poison Information Center/Jacksonville
At Shands Jacksonville
University of Florida Health Science Center
1-800-222-1222**

Lewisite

Mechanism of Action

Lewisite is a vesicant (blistering) agent that damages the eyes, skin, and airways by direct contact. After absorption, it causes an increase in capillary permeability to produce hypovolemia, shock, and organ damage. Its exact mechanism of biological activity is unknown.

Properties

It is a colorless to brown or violet oily liquid with poor water solubility. It has a fruity or geranium like odor. Common routes of exposure include ocular, cutaneous, and inhalation.

Symptoms

It acts first as a vesicant, second as a pulmonary irritant, and third as a systemic poison. There is no latent time; symptoms appear immediately (unlike mustard)

- 1) Eyes – immediate burning and stinging with blepharospasm and edema. Iritis and corneal haziness occur over a few hours. Blindness may occur if not decontaminated within one minute.
- 2) Skin – immediate burning and stinging, with erythema in 30 minutes and painful blister formation in 2 to 3 hours.
- 3) Systemic –diarrhea, restlessness, weakness, subnormal temperatures, pulmonary edema, hypotension, hemolysis, focal liver necrosis, kidney damage, necrosis of the mucosa.

Medical Management

Decontamination – Remove all contaminated clothing and handle as hazardous waste. Wash away any material that may have contacted the body with large amounts of soap and water. Alkalinity will degrade Lewisite. It is neutralized and inactivated by sodium hypochlorite (bleaching powder).

Specific Antidote –

BAL in peanut oil has been used

Bibliography

1. Poisindex (R) Toxicologic Managements: Warfare Agents – MG , 1974- 1999 Micromedex, Inc. vol 99
2. Material Safety Data Sheet for Lewisite

Call the Florida Poison Information Center Network for information and/or to report exposures.



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Centers are located in Jacksonville, Tampa, & Miami