

(5) Lewisites

Lewisite 1:	2-chlorovinyl dichloroarsine	541-25-3
Lewisite 2:	Bis(2-chlorovinyl)chloroarsine	40334-69-8
Lewisite 3:	Tris(2-chlorovinyl) arsine	40334-70-1

Lewisite 1, $C_2H_2AsCl_3$

CAS No. 541-25-3

HS No. 29.31.00

Merck 3051

Synonyms: Arsine, dichloro(2-chlorovinyl); Arsonous chloride, (2-chloroethenyl); chlorovinylarsine dichloride

Physical properties: MW: 207.3; mp: 0.1°C; bp: 190°C dec; d. 1.888; a light amber liquid with the smell of geraniums; insoluble in water and soluble in organic solvents.

Synthesis: The reaction of arsenic trichloride with acetylene in the presence of aluminum trichloride. Lewisite 2 and 3 also result from this reaction.

Toxicity: May cause blindness, immediate destruction of lung tissue and systemic blood poisoning; LD₅₀ dermal is 6 mg/kg (rabbit); TPQ 10 pounds; RQ 1 pound. Produces severe vesication, even through rubber.

Key precursors: arsenic trichloride (CAS No. 7784-34-1) and acetylene (CAS No. 74-86-2).