

III. Supertoxic Solids

Solid toxic materials are generally not dangerous as possible agents of warfare, because they are not readily absorbed through the skin, and are not sufficiently volatile to form inhalable vapour clouds, or sufficiently heat resistant to be disseminated as toxic smoke from pyrotechnic devices. However, development of munitions for producing large clouds of inhalable aerosol of solid materials would allow these substances to become available as weapons. Solid materials would have to be considerably more toxic than persistent nerve gases to offer any military advantage. Examples of such supertoxic solid materials are found among naturally-occurring toxins; examples are snake venom, ricin, staphylococcus enterotoxin, botulinus toxin.

The approximate lethal levels of toxic materials, including agents of chemical warfare, are indicated in Table I.

In considering possible criteria for materials to be defined by treaty as potential weapons, it would appear to be impractical to use only the injected LD_{50} s as such a criterion because:-

- (a) Injected LD_{50} s only very approximately reflect the toxicity of materials by inhalation or percutaneous absorption.
- (b) A limiting LD_{50} high enough to include phosgene and hydrogen cyanide (e.g. about 1 mg/Kg) would also include a large number of toxic solids which need not be considered as likely weapons.