GENERAL DESCRIPTION OF TESTING PROCEDURES FOR PROPOSED CRITERIA OF LETHALITY

The principle of comparative testing would be to subject one small group of uniform animals (mammals) to a dosage of the reference substance, by the appropriate route (inhalation, percutaneous or injected subcutaneously), and to subject a second group to an equal dosage of the chemical to be tested. The dosage used would be one known to be close to the LD_{50} for the reference substance. In most cases, all the animals in the group receiving the test chemical would either live or die, and a clear-cut decision on the lethality of the chemical could be made. In the minority of cases, some of the animals in the test group would survive and some die; this would indicate that the material was of approximately equal lethality to the reference substance, and would be considered as a possible chemical warfare agent. These borderline cases would be of minor importance, since they would not offer attractive alternatives to recognized agents of chemical warfare.

The advantages of this proposal over more accurate methods for determining LD_{50} values are that it is a much simpler and more economical test which need not be tied to any particular species or strain of animal, or to any agreed mathematical calculation.

LIMITATIONS OF THE PROPOSAL

The most important limitation on the above proposal, or on others which adopt a sole criterion of lethality, is that they would not include materials which are less lethal, but which could still have military utility against forces or civilians poorly protected. (For this reason, it may be

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