

# ALIEN PROPERTY CUSTODIAN

## EXTERMINATING AGENTS FOR ANIMAL VERMINS

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vested in the Allen Property Custodian

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My invention relates to the extermination of animal pest-life of the most varied kinds, for instance, of warm-blooded obnoxious animals and insects, respectively.

According to my invention halogenated nitriles, such as for instance, trichloroacetonitrile or trichloropropionitrile, are extraordinarily well suited for this purpose.

Detailed experiments have shown that the above-mentioned substances, especially the chlorinated nitriles give surprisingly good effects. At the same time the danger of a harmful influence on human beings is considerably lessened by the fact that the presence of only small quantities of these substances causes already a strong irritation of the eyes but without doing any real harm. On the other hand this irritating effects has the advantage of driving out the vermin from their holes or hiding places respectively and this already with the slightest traces of the above mentioned substances. In consequence thereof the vermin is exposed in the open to the full influence (effect) of the exterminating agent and killed very easily. With warm-blooded animals, for instance, rats, the irritating effect has the further advantage that these animals do not perish in their hiding places, but come out before and consequently may be carried away easily after the extermination.

The distribution of the exterminating substances or their vapors in the rooms to be treated may be carried into effect in a known manner, for instance, by exposing the substances in vessels or by spilling them with the aid of suitable devices, or in any other suitable way.

The substances according to my invention may be used either alone or in mixture with other substances which may be likewise efficient or not. Liquid substances or their mix-

tures with other substances with insecticidal effect or not, may be utilized advantageously after a well known manner by absorption in suitable carriers, as for instance, wood-pulp, kieselguhr.

As the above mentioned substances do not tend to chemical conversion neither with the materials to be treated nor with the other substances for instance, metals, which may come into contact with the exterminating means or their vapors, no damage will occur in this respect.

In carrying out my invention it has been found especially advantageous to use halogenated nitriles in combination with other low boiling insecticides, as for instance, cyanogen chloride, ethylene oxide, methyl bromide, methyl iodide or the like. The substances according to my invention are especially suited for this purpose as they are able to mix with low boiling insecticides to a very considerable extent.

Exhaustive experiments have shown that mixtures of halogenated nitriles, such as trichloroacetonitrile, with methyl bromide provide particularly valuable insecticidal properties. Thereby it has been found that effects may be attained which surpass considerably the expected effects based on the efficiency of the single components. Experiments with *Tribolium confusum* have shown that for a certain effect only two-thirds of the quantity of mixture were necessary which theoretically were calculated from the single effect of the components.

Excellent effects may be obtained, for instance, with a mixture of 40 parts of weight of methyl bromide with 60 parts of weight tri-chloroacetonitril whereby 100 parts of weight of this liquid mixture, for instance, may be absorbed in 100 to 120 parts of weight kieselguhr or 40 to 50 parts of weight wood-pulp.

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