

TRIONAL.

Proceed as directed under salophen.

Comments: The melting point of trional is 76° C.

VERONAL.

Proceed as directed under salophen, using, however, acetone as solvent.

Comment: Melting point, 188° C.

ZINC PHENOLSULPHONATE.

Zinc oxid: Exhaust from ½ to 1 gram of powdered material with alcohol, as directed under acetanilid tablets, collect filtrate in tared evaporating dish, dissipate the alcohol, incinerate the residue in a muffle at a dull, red heat until a white or nearly white residue is left. Cool dish in desiccator and weigh residue as zinc oxid.

Comments: Uneffloresced zinc phenolsulphonate leaves 14.6 percent of its weight as zinc oxid on ignition.

Reaction: $Zn(C_6H_4(OH)SO_3) + 14O_2 = ZnO + 12CO_2 + 2SO_3 + 5H_2O$.

Residue insoluble in alcohol: See residue insoluble in chloroform under acetanilid tablets. By deducting the amount of residue so obtained from the total amount of material originally taken the quantity of alcohol-soluble material (zinc phenolsulphocarbolate, chiefly), is obtained.

THE COST OF RODENTS.

Rats, mice, flies, mosquitoes, and the various form of body parasites have always been held in contempt and disgust, and always and everywhere have been regarded as vermin. Growing knowledge of the important role played by these lower forms of animal life in the transmission of disease is ample justification for this feeling. They are exceedingly expensive.

The Journal of the American Medical Association comments on a recent article in The Farm and Fireside, which discusses the amount of damage done in this country by rats, and estimates that there are in the United States at least 300,000,000 of these animals, alike destructive to property and dangerous to health. Rats are said to destroy \$100,000,000 worth of grain every year in this country, or enough to feed one hen for every man, woman and child in the nation. The annual cost of rats to the nation is estimated at \$360,000,000.

In addition, the rat population of the country forms a fertile field for the dissemination of bubonic plague, which only needs a starting point in any of our seaports to spread throughout the country and cause the loss of thousands of lives.

In the same issue of The Farm and Fireside, but in a different department, appears an article on the cattle tick, in which it is estimated that the difference between the market value of an animal free from this parasite and one infested with it is about \$8 a cow, and that the cattle tick is today costing the stockmen of the country \$1,000,000,000 each decade, or \$100,000,000 each year.

The discovery and development of bacteriology showed that man had been carrying on for centuries an unconscious struggle with the lower forms of vegetable life. Recent additions to knowledge of the habits and characteristics of vermin show that an equally relentless struggle has been going on between man and the lower forms of animal life.