

UNITED STATES PATENT OFFICE

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CHEMICAL MANUFACTURE

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4 Claims. (Cl. 167-17)

This invention comprises improved deodorizing compositions and an improved method of deodorizing organic material.

The invention relates particularly to the elimination of odors of organic derivation, in lavatories, garbage containers, sinks, sink traps, stables and tanneries for example.

Most of the conventional deodorants in common use depend upon the formation of less offensive counter-odors to mask the objectionable odor rather than upon elimination of the objectionable odor or the circumstances producing it. Other deodorants operating to eliminate the objectionable odor or the circumstances producing it frequently involve secondary reactions producing other odors which, while of a different character, nevertheless are still offensive. The use of calcium hypochlorite in urinals is an example of this situation, the secondary odors produced apparently being due to the formation of chloramines.

This invention involves the use of soluble chlorites, chlorites of the alkali metals, the alkaline earth metals, and magnesium, for example, as deodorants. Applied in accordance with this invention, chlorites operate to eliminate objectionable odors of organic origin without forming other objectionable odors. The action, moreover, is not dependent upon the formation of any counter-odor. Soluble chlorites may, however, be used in accordance with this invention in conjunction with compounds producing counter-odors.

In accordance with this invention, deodorization is effected by bringing together a soluble chlorite and the organic material to be deodorized in the presence of an acidifying agent and water. The compositions of the invention include dry mixtures, advantageously briquetted, of a soluble chlorite and an acidifying agent. Such mixtures of sodium chlorite, NaClO_2 , with monopotassium phosphate, KH_2PO_4 , or with sodium fluosilicate, Na_2SiF_6 , are particularly advantageous. The compositions of this invention also include briquetted dry mixtures of a soluble chlorite, with or without an acidifying agent, and a filler, of lower solubility or substantially insoluble, to retard disintegration of the briquets when in contact with water. Fillers useful in this connection include sodium chloride, asbestos, fuller's earth, pumice, talc and sand. Para-di-chlor-benzene can be used in such compositions to serve a dual purpose, both as such a filler and as a compound producing a counter-odor.

The following examples of embodiments of the invention will further illustrate the invention:

Example 1.—0.1 normal hydrochloric acid and an aqueous solution of sodium chlorite containing 5% (by weight) NaClO_2 are supplied separately to a urinal at rates of 750 cc. per day each.

Example 2.—An intimate mixture of equal weights of sodium chlorite and monosodium phosphate or mono-potassium phosphate or sodium fluosilicate or ammonium chloride is sprinkled, as a powder, over the material or in the container to be deodorized. If the material or the container is substantially dry, a small amount of water is also supplied.

Example 3.—Briquets, consisting of an intimate mixture of equal weights of sodium chlorite and mono-potassium phosphate or sodium fluosilicate are placed in urinals.

Example 4.—Briquets consisting of an intimate mixture of one part each (by weight) sodium chlorite and monopotassium phosphate or sodium fluosilicate together with from 1 to 20 parts of para-di-chlor-benzene are placed in urinals.

Example 5.—Briquets consisting of an intimate mixture of one part each (by weight) of sodium chlorite and monopotassium phosphate or sodium fluosilicate together with from 3 to 20 parts of asbestos or fuller's earth are placed in urinals.

In using the dry compositions of the invention, the deodorizing reaction is initiated as the dry composition comes in contact with water and begins to dissolve. For use in applications in which the material to be deodorized is acid in character, compositions of the invention need not include an acidifying agent. The range of proportions in which soluble chlorites and acidifying agents, or soluble chlorites and fillers, or soluble chlorites and acidifying agents and fillers, may be combined in accordance with the invention is, for practical purposes, unlimited. Fillers, for example, may be used in proportion ranging from less than 1/100 part of the soluble active constituents of the composition to more than 100 times the total of soluble active constituents present.

I claim:

1. A deodorizing composition comprising a briquetted dry mixture of a soluble chlorite, an acidifying agent and a filler of lower solubility whereby disintegration of the briquets when in contact with water is retarded.

2. A deodorizing composition comprising a briquetted dry mixture of sodium chlorite, monopotassium phosphate, and a filler of lower solubility.

3. A deodorizing composition comprising a briquetted dry mixture of sodium chlorite, sodium fluosilicate, and a filler of lower solubility.

4. A deodorizing composition comprising a briquetted dry mixture of a soluble chlorite and a filler of lower solubility whereby disintegration of the briquets when in contact with water is retarded.

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