

UNITED STATES PATENT OFFICE

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FATTY COMPOSITIONS

No Drawing.

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This invention relates to improved fatty compositions stabilized against rancidity.

My invention has for its object the prevention or minimizing of oxidation in fatty substances and more particularly the prevention or minimizing of rancidity in fatty substances such as fatty oils and fats, soap, etc.

The new fatty compositions of the present invention comprise fatty materials such as fats and oils and their products such as soap, together with a small amount of a cyanamide compound.

It is well known that natural fats and oils are subject to oxidation and tend to become rancid when exposed to atmospheric oxygen. Various catalysts accelerate the process of rancidification. Among the accelerating influences are sunlight, ultra violet light, heat, metals, metallic oxides and metallic salts and soap. Among these metals and their compounds copper and iron hold a prominent position because of their natural catalytic influences and their widespread use in the manufacturing arts. Copper and its compounds are many times as active catalytically as iron and iron compounds. Small amounts of copper compounds may be present in the fats, particularly in certain animal fats, or they may be introduced into the fats through contact of the fat with copper apparatus or equipment. Even minute amounts of copper seem to have a pronounced catalytic effect in accelerating the process of rancidification.

In the manufacture of soaps there is a similar tendency for the soap or for its ingredients to become contaminated with small amounts of catalysts such as iron or copper compounds, which promote oxidation or rancidification. Hence, soaps, like the commercial fats and oils, are not only subject to rancidity but frequently or usually contain small amounts of catalytic substances which tend to promote oxidation or rancidification.

I have found that dicyandiamide is a particularly valuable anti-oxidant or anti-catalyst and that its addition in small amount to the commercial fats and oils or to their products such as soap effectively prevents or retards or minimizes objectionable oxidation or rancidification of the fatty material. Other

cyanamide compounds can be used, such as cyanamide itself, as well as various other cyanamides and cyanamide derivatives. I consider dicyandiamide particularly valuable. It can be readily manufactured from calcium cyanamide and even in small amount it is a powerful and effective anti-oxidant and protector against rancidity.

The amount of the cyanamide compound added to the fatty material will vary somewhat with the material and with the use to which it is put or the conditions under which it is to be kept. In the case of dicyandiamide as little as 0.05% or less of the fatty material may be sufficient and the amount may be as high as 1% or more of the fatty material.

The cyanamide compound, for example, dicyandiamide, can be readily incorporated with commercial fats and oils, preferably while the fats and oils are in a liquid state so that it will dissolve in the fatty material and be uniformly distributed throughout it.

In the case of soap the dicyandiamide can be introduced with the other ingredients into the crutcher in which the soap is mixed so that it will be incorporated in the soap during its process of manufacture.

While ordinary soap in the moist condition has little tendency to become rancid, this tendency becomes pronounced when the soap is dry or semi-dry, so that under adverse storage conditions dried soap such as soap chips may and frequently does become rancid and unsuitable for use because of the disagreeable odor and bad color developed, and, in extreme cases, spontaneous combustion may result due to the heat developed by oxidation.

I have found that the addition of from about 0.05% to about 1% of dicyandiamide to soap chips will effectively retard the onset and progress of rancidity.

The invention will be further illustrated by the following specific example, but is not limited thereto.

The liquid soap, with or without other materials such as caustic soda, soda ash, sodium silicate, perfume, color, etc., is introduced into a crutcher according to the common procedure and a small amount of the

dicyandiamide is added to the soap while agitating it. The anti-oxidant can be added either in solution or in dry form. After it is thoroughly incorporated in the soap by crutching, the soap is treated according to the customary practice by reducing it to the dry form such as the form of flakes, chips, or powder.

10 While the cyanamide compound can readily be applied to the soap in the crutcher it may also be incorporated in the soap at other stages of the process of manufacture. For example, the cyanamide compound either in a dry form or in solution may be incorporated with the dried soap, making use of the soap mixer or mill or other devices such as are commonly used for incorporating additional ingredients with soap. In the case of soap powder or soap granules the cyanamide compound may be incorporated in the crutcher or other form of mixer prior to the spraying or drying process.

25 The action of cyanamide compounds such as dicyandiamide is probably both direct and indirect in preventing or retarding oxidation and rancidity of soap. Thus, in addition to their direct action they probably also act to combine with such metallic substances as copper or copper compounds, or so as to 30 destroy the catalytic activity of such compounds. The cyanamide compounds appear to act in a similar manner in preventing or retarding oxidation of oily or fatty materials such as the commercial fats and oils 35 where, for example, dicyandiamide in small amount, e. g., 0.05% to 1% can be readily incorporated in the fat or oil to stabilize it against rancidity or oxidation.

I claim:

- 40 1. A fatty composition comprising an oxidizable fatty material and a small amount of a cyanamide compound which stabilizes the same against oxidation or rancidity.
- 45 2. A fatty composition comprising an oxidizable fatty material and a small amount of dicyandiamide which stabilizes the same against oxidation.
- 50 3. A fatty composition comprising commercial fatty material and a small amount of a cyanamide compound, said compositions being resistant to oxidation and rancidity.
- 55 4. A fatty composition comprising commercial fatty material and a small amount of dicyandiamide, said compositions being resistant to oxidation and rancidity.
- 60 5. A soap composition stabilized against rancidity by the presence therein of a small amount of a cyanamide compound.
- 65 6. A soap composition stabilized against rancidity by the presence therein of dicyandiamide.
- 70 7. A soap composition stabilized against rancidity by the presence therein of about 0.05% to 1% of dicyandiamide.
- 75 8. Soap chips stabilized against rancidity

by the presence therein of a small amount of dicyandiamide.

9. The method of rendering fatty and oily materials resistant to oxidation or rancidity which comprises adding thereto a small amount of a cyanamide compound.

10. The method of rendering fatty and oily materials resistant to oxidation or rancidity which comprises adding thereto a small amount of dicyandiamide.

11. The method of rendering soap resistant to oxidation and rancidity which comprises adding thereto a small amount of a cyanamide compound.

12. The method of rendering soap resistant to oxidation and rancidity which comprises adding thereto a small amount of dicyandiamide.

In testimony whereof I affix my signature.

ARTHUR GUILLAUME.

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