

**BAKING POWDER: A
HEALTHFUL,
CONVENIENT,
LEAVENING AGENT**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649328116

Baking Powder: A Healthful, Convenient, Leavening Agent by Thomas G. Atkinson

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THOMAS G. ATKINSON

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By

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THE COMMONWEALTH PRESS
Publishers of School Books
CHICAGO, ILLINOIS

TP 465
A8

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CHAPTER I

LEAVENING AGENTS

THE common leavening agents in use in the home are yeast and baking powder. Yeast is a microscopic plant which, in the leavening process, produces changes which finally result in the breaking up of sugars into alcohol and carbon dioxid gas. Baking Powder is a mixture of several substances which produce this same gas by chemical action. This gas, by forming in small bubbles throughout the dough mass, lightens or leavens it. Carbon dioxid gas is sometimes called carbonic acid gas. This is the gas which is present in all carbonated waters, whether natural or artificial, as in soda fountain waters.

DISADVANTAGES OF YEAST

IN the case of yeast, the fermentation which produces the gas is never of a single kind, as many different fermentations are going on at the same time. It is impossible, commercially, to control these different fermentations so that they will always exist in the same proportions; hence, we find that the flavors from different bakings vary greatly and are sometimes objectionable. Moreover, several hours must be allowed for the process of fermentation before the food can be placed in the oven. Fermentation does not take place readily in the presence of large quantities of butter, lard or eggs.

ADVANTAGES OF BAKING POWDER

WITH a properly compounded baking powder, on the other hand, the chemical reaction will always be the same, and any influence which it may exert upon the flavors of the finished food will always be the same. Baking powder has, moreover, these two further advantages over yeast: The gas is given off at once upon the addition of water or in the oven during the heating; there is no waiting. And the presence of butter, lard or eggs does not hinder the chemical action.

The leavening, from whichever source, is always the result of the same gas, carbon dioxid, and in the study of baking powder we are interested in learning how this gas is produced by chemical action.

SOURCES OF CARBON DIOXID

CARBON dioxid is found in nature combined chemically with many metals, and these combinations are known as salts of carbonic acid, or more commonly as carbonates. Those with which one is most familiar are chalk, marble and limestone, all of which are different forms of calcium carbonate. If any of these are heated to a very high temperature, carbon dioxid gas is set free and lime remains; but this very high temperature is never reached in baking. Baking soda is another carbonate with which all are familiar.

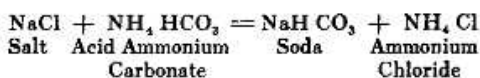
CHAPTER II

THE INGREDIENTS OF BAKING POWDER

SODA

SODA is the carbonate which is used at home for cooking purposes; it is also commonly known as saleratus, or baking soda. This is the carbonate used almost exclusively in the manufacture of baking powder and always named on the label as soda. It is sometimes referred to as the alkali of the baking powder. It is a white crystalline substance of very high purity, being as free from impurities as the granulated sugar used at the table. It is manufactured from common salt through the action of acid ammonium carbonate.

The reaction is represented by the following equation:



Soda, when heated, readily gives off carbon dioxide gas, and hence may be, and often is, used in cooking without the addition of any other substance for the purpose of leavening. The heat, however, does not drive off all of the gas. The reaction which takes place is represented by the following formula:

