

# Should we bromate flour?

## Instructions:

In this simulation assume you are part of a research group in a large company that makes bromated flour. The attached article has recently come to the attention of the person in charge of the company and this person has assigned your research group to investigate this issue and to write a position paper advising a course of action. Your position paper may either advise the company to continue to produce bromated flour or it may advise the company to make changes in the processing plant and to stop bromating flour.

To carry out this task you will need to assign roles to the members of your group. Someone will need to type up the position paper. Someone will need to edit it and proofread it. Someone will need to find links on the Internet. Someone will need to summarize articles and find the main points. Maybe you will want someone to look for specific images to include in the report. Someone will need to report your group's findings to the class. These are some ideas about how you could divide the work.

*The objectives of the simulation are as follows:*

1. Analyze a real world problem and apply concepts learned in chemistry to this problem.
2. Divide a task among members of a group and work collaboratively.
3. Critically analyze the strengths and weaknesses of information obtained on the Internet in terms of the credentials of the authors.

# FDA Should Ban Potassium Bromate and Bromated Flour

<http://www.nowpublic.com/health/fda-should-ban-potassium-bromate-and-bromated-flour>

by [oppknx](#) | April 29, 2009 at 09:25 am



**Potassium Bromate** is typically added to bread and other flours as maturing agent which promotes gluten development in doughs, making the bread stronger and more elastic. Commercial bakers use bromated flour because it yields dependable results and can stand up to bread hooks and other commercial baking tools. It is also used to render inferior flour with low protein levels more useable since these flours do not develop enough gluten on their own.

Bromate is also considered a category 2B carcinogen by the International Agency for Research on Cancer (IARC), meaning that it may be harmful when consumed. In theory, the substance is supposed to bake out of bread dough as it cooks, but if too much is added, or if the bread is not cooked long enough or not at a high enough temperature, then a residual amount will remain.

Potassium Bromate has been banned from use in food products in Europe, as well as the United Kingdom in 1990, and Canada in 1994, and most other countries. It was banned in Sri Lanka in 2001 and China in 2005. It is also banned in Nigeria, Brazil and Peru.

In the United States, it is not banned. In California a warning label is required when bromated flour is used. Some organizations such as the Center for Science in the Public Interest have lobbied the Food and Drug Administration to ban Potassium Bromate as a food additive in the United States. Instead, since 1991 the FDA has urged bakers to voluntarily stop using it.

The FDA currently permits the addition of Potassium Bromate in flour provided that its inclusion does not exceed .0075 parts for each 100 parts of weight of the flour (or 750 parts per million).

To avoid packaged foods that contain bromate, look for "potassium bromate" or "bromated flour" in the ingredient list. Bromated flour is likely to be found in your local pizza shop, but not in Dominos Pizza or Pizza Hut (though it uses bleached flour). You will also find bromated flour in Arby's French Toastix and Burger King's hamburger buns. It is also found in hoagie rolls at your local Johnny Rocket Restaurant. You may also find in your supermarket flour brands, especially Gold Medal flours by General Mills.

Whole Foods Markets lists both bromated flour and potassium bromate as unacceptable ingredients for food on its web site: <http://www.wholefoodsmarket.com/products/unacceptable-ingredients.php>.

## Information about author:

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## Use the Internet to research the following questions:

1. What are the credentials of this author?
2. What is bromated flour?
3. Why is bromated flour sold?
4. What is the evidence that bromates are carcinogenic?
5. What are the levels that are considered carcinogenic?
6. What is the evidence that bromates remain in baked goods?
7. Do you feel there is enough evidence to support a ban on bromated flour?
8. Is there a counter argument – a reason to continue to allow flour to be bromated?

Be sure to cite any and all resources you use to answer these questions.