What is sodium nitrite?
Sodium nitrite is a salt and an antioxidant that is used to cure meats like ham, bacon and hot dogs.
Nitrite serves a vital public health function: it blocks the growth of botulism-causing bacteria and prevents spoilage. Nitrite also gives cured meats their characteristic color and flavor. In addition, United States Department of Agriculture (USDA) -sponsored research indicates that nitrite can help prevent the growth of Listeria monocytogenes, an environmental bacterium that can cause illness in some at-risk populations.

Isn’t botulism one of those old diseases that aren’t really a problem anymore?
Botulism is rare today because processing methods and preservatives like sodium nitrite are used to protect consumers. In fact, since sodium nitrite was approved for use in cured meats in 1925, no cases of botulism have been associated with commercially prepared cured meats. Sodium nitrite provides a food safety benefit to consumers.

Are ‘nitrates’ used in curing meats?
Decades ago, sodium nitrate - a “chemical cousin” of nitrite — was also used as a curing ingredient. Sodium nitrate, even though still permitted as an ingredient, is rarely used to cure meat and only in some certain specialty meat products.

Are cured meats the major source of nitrite?
Less than five percent of daily nitrite intake comes from cured meats. Nearly 93 percent of nitrite comes from leafy vegetables, tubers and our own saliva. Vegetables contain nitrate, which is converted to nitrite when it comes into contact with saliva in the mouth.

Can cured meats be produced without sodium nitrite?
Cured meats by their legal USDA definition must include sodium nitrite. Sodium nitrite is the very ingredient that gives a product like ham its color and taste. Its shelf-life also would be shortened substantially.

I heard some people say that nitrite causes cancer. Is sodium nitrite safe?
Numerous scientific panels have evaluated sodium nitrite safety and the conclusions have essentially been the same: nitrite is not only safe, it is an essential public health tool because it has a proven track record of preventing botulism.

Specifically, the National Toxicology Program, an agency within the U.S. Department of Health & Human Services and the world’s leading authority on the toxicological safety of chemicals, conducted a multi-year study to evaluate its safety. The study, approved by a panel of experts May 18, 2000, found that nitrite was safe at the levels used.

Is it true that nitrite actually may have health benefits?
Evidence is mounting that nitrite actually does have numerous health benefits. Studies have shown that nitrite is part of the body’s healthy nitrogen cycle. The body converts nitrate to nitrite to regulate blood pressure, promote wound healing, destroy pathogens in the gut and even prevent preeclampsia during pregnancy.

Scientists at the National Institutes of Health (NIH) over the last several years have announced a number of studies that document the health benefits of nitrite. These scientists have concluded that nitrite is a potential new treatment for organ transplantation, heart attacks, sickle cell disease, and leg vascular problems.

Dr. Mark Gladwin of NIH’s National Heart, Lung and Blood Institute, whose lab uncovered nitrite’s value as a medical treatment, told reporters in September 2005, “The idea it’s bad for you has not played out… We think we stumbled into an innate protection mechanism.” Gladwin said NIH believes so strongly in its promise that it is seeking a pharmaceutical company to help develop it as a therapy.
Conclusions

In a review by University of Minnesota scientists, nitrite as used in meat and meat products is considered safe because “known benefits outweigh potential risks.”

Nitrite experts like Dr. Nathan Bryan at the University of Texas Health Science Center in Houston say there are many myths about nitrite sources and safety.

“Nitrite can prevent injury from a heart attack, control blood pressure, promote wound healing, help treat sickle cell anemia and many other health conditions and may even prevent disease progression,” Bryan said. “Old myths about an alleged link to cancer are very weak at best.”

Consumers should consume – and enjoy – nitrite-containing cured meats with confidence.

HELPFUL LINKS

North American Meat Institute
http://www.meatinstitute.org
http://www.meatsafety.org
http://www.meatsafety.org/meat-and-cancer-myths

University of Minnesota
http://www.extention.umn.edu

Medem
http://www.medem.com

Council for Agricultural Science and Technology
http://www.cast-science.org

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