

Real World Graduation: Question 71: Chemicals in Foods

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Question 71

Popular foods consumed by millions of people have been discovered to have a process involving a dangerous chemical in the manufacture of those food items. Upon investigation, it was discovered that manufacturers used a process in which a quantity of carbonic acid gas was dissolved in hydroxic acid, which then forms what the manufacturer claims is a safe, edible compound although it contains known levels of carbonic and hydroxic acids. Consider the following facts regarding carbonic acid gas and hydroxic acid.

Item: Carbonic acid gas, although naturally occurring, is a known asphyxiant. It is odorless and colorless. It is dangerous because in concentrations of 15% in air, carbonic acid gas causes unconsciousness, coma, and death. However, the carbonic acid gas used in the manufacture of the "edible" compound is 100% pure, that is, at more than seven times the lethal concentration.

Item: Hydroxic acid is an odorless, colorless liquid at room temperature. It is known to cause death in humans if too much of it penetrates into the lungs, which can occur in the process of ingesting the manufacturers' "edible compound". It is particularly deadly in children. In 2004, statistics show that children under the age of 14 died from this cause 14.73 times more frequently than adults over the age of 85.

Item: The "edible" compound containing these materials has no known health benefits, but has not been studied to determine if it poses any health risks. It is used merely for aesthetic reasons in the production of some foods.

With these facts in mind, what would be the most prudent course for regulation of these materials?

- a) A study should be done to determine if anyone has been poisoned, and if so,
 - 1) the manufacturers should be prosecuted, and then
 - 2) these substances should be regulated the same as other poisons.
- b) Manufacturers should require a license, be subject to periodic government inspections, and warning labels should be placed on all containers until the risk level has been determined.
- c) Prohibition on sale to minors should be enacted to protect children.
- d) An excise tax should be levied to discourage production and consumption since it has no known health benefits.
- e) Manufacture, importation, possession, and consumption should all be prohibited, with an exemption for those entities specifically licensed to handle this material, due to the danger to children.

Answer to Question 71

This is a trick question. The process described in the question is that of manufacturing an "edible" compound known as carbonated water (which contains small amounts of carbonic acid). "Carbonic acid gas" is an old-fashioned name for carbon dioxide (CO₂), and hydroxic acid is a technically correct chemical name for water. It is true that water can be dangerous if it penetrates into the lungs (known as drowning). In 2004, 943 children under the age of 15 drowned accidentally, and so did 64 people over the age of 85. Of all other ages, 2835 people also died of accidental drowning. Carbon dioxide is a known asphyxiant (usually found in mines), and 100% pure CO₂ is used in the manufacture of carbonated water. But the carbonated water is ingested into the stomach, not into the lungs, and therefore is safe to drink, as we all know from drinking soda, mineral water, and beer.

This is an example of a scare tactic that relies on using obscure names for common materials in an effort to promote more regulation. Instead of stating the true facts, it camouflages the real topics at hand. This type of scare tactic is common among those who want to control your life, but don't have any logical justification for it. It has been particularly effective in the "man-made climate change" debate.