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EDITORIAL**FORMALIN IN FOOD - AN EMERGING PUBLIC HEALTH PROBLEM**

Prof. Dr. Md. Azfarul Habib, Head of the Dept of Community Medicine, TMSS Medical College, Bogra.

The widespread use of formalin in preservation of fish, fruits & other food items is posing a threat to public health. The chemical is used as a solution in water keeps the fish fresh & makes fruits attractive. This chemical usually is used as a preservative of dead bodies.

What is formalin?

Formalin is a colourless strong-smelling chemical substance usually used in industry of textiles, plastic, paper & well-known to preserve human corpse. It is derived from formaldehyde gas dissolved in water.

Effects of formalin

Exposure of formalin gas or vapor can cause irritation to the eyes, nose & respiratory tract causing sneezing, sore throat, larynx constriction, bronchitis & pneumonia.

Multiple exposure can lead to asthma. It can also affect skin causing dermatitis or allergic reaction.

Serious inhalation or ingestion can cause severe pain & inflammation, ulceration & necrosis of the mucus membranes which line almost every internal organ. This may show as symptoms of nausea, vomiting blood, diarrhoea with bloody stool, blood in urine & circulation failure then death.

Lethal dose of formalin is suggested as 30ml.

The limit allowed in air that is still safe for human is less than 2ppm.

Formalin is known to be a carcinogenic substance & can precipitate cancer.

A study showed mice exposed to formalin with concentration of 6 to 15 ppm for two years developed squamous cell carcinoma in nostril. Some other studies also showed formalin can cause kidney, liver & lung problems.

Detection of formalin

Associate professor Dr. Plangpon Kongseree, Department of Chemistry, Faculty of Science, Mahidol University has developed simple but ingenious testing technology that would come in handy for consumers to detect formalin contamination in foods.

This formaldehyde test kit (FSM29) gives quick, clearly visible results enabling users to learn right away whether

foods or beverages contain harmful amount of formalin.

This kit is inexpensive & convenient for on-site test.

Removal of formalin

Formaldehyde can be diluted or dissolved partially by washing & heat, for safety or when suspecting formalin contamination, consumer should wash vegetables & fruits as follows.

20-30 potassium permanganate flakes should be added to 4-5 liters of water. Then the foods should be soaked in the solution. Formaldehyde will react with potassium permanganate & turn into formic acid, which is soluble in water & can be washed out.

Making markets formalin free

- Local government authority such as Upazilla Parishad, Municipal Corporation, City Corporation etc can launch a formalin detecting service in the kitchen market & mobile court & destruction of formalin contaminated food.
- Massive awareness generating campaign can be launched against the use of formalin in preservation of food through discussion, view exchange meeting with traders, retail sellers, bazaar committee, consumers & media.
- Legislation against the use of formalin in preserving food.

These programs can be taken phase by phase.