

Toxicity from Food additives

Food additives are substances added in the food for some technical purposes.

These are safe for human consumption under recommended quantity.

They become toxic on excessive consumption or when undeclared as it may cause allergic reaction to some persons.

SO₂ or Sulphates

- Used as antioxidants.
- Prevent enzymatic browning.
- Safe for normal people but toxic for person suffering from asthma.

Antioxidants

- Commonly used anti-oxidants are BHA (Butylated hydroxyl anisole) and BHT (Butylated hydroxyl toluene).
- Having GRAS status by FDA.
- In 1980, BHA was found toxic.

Salt

- Used as additive for taste
- Excessive use can cause hypertension or increase in blood pressure in the patients of hypertension.

Artificial sweeteners

- Added in the food for sweetness and provide no or little calories
- **Saccharine:** excessive consumption is carcinogenic
- **Aspartame:** on digestion converted into aspartic acid, phenylalanine and methanol. Methanol causes visual impairment and nervous disturbance.

Fat substitute

- **Simplesse:** produced by microparticulation of egg white and milk proteins.
- It has GRAS status
- Used in frozen dairy product
- Toxic for people having allergy from milk or egg.
- **Salatrin:** excessive consumption cause gastrointestinal problem

- **Olestra:** Sucrose polymer. Not digested by body. It inhibits the absorption of vitamins and minerals in body.

Nutritional additives

Excessive consumption of

- Vitamin A can cause drowsiness, headache, vomiting and excessive peeling of skin.
- Vitamin D can cause the heart problem
- Niacin can cause the gastrointestinal problems and liver toxicity.
- Folic acid masks the deficiency of vitamin B12.
- Iron reduces the absorption of trace metals and can cause cancer.

Toxicity from water

Water intoxication, also known as **water poisoning**, **hyperhydration**, **overhydration**, or **water toxemia**, is a potentially fatal disturbance in brain functions that results when the normal balance of electrolytes in the body is pushed outside safe limits by excessive water intake.

Under normal circumstances, accidentally consuming too much water is exceptionally rare. Nearly all deaths related to water intoxication in normal individuals have resulted either from water-drinking contests, in which individuals attempt to consume large amounts of water, or from long bouts of exercise during which excessive amounts of fluid were consumed. In addition, water cure, a method of torture in which the victim is forced to consume excessive amounts of water, can cause water intoxication.

Water, just like any other substance, can be considered a poison when over-consumed in a brief period of time. Water intoxication mostly occurs when water is being consumed in a high quantity without adequate electrolyte intake.