

Nitric acid

Definition of causal agent

Colourless, yellow or red fuming liquid with an acrid, suffocating smell. It is often used in an aqueous solution. Fuming nitric acid is concentrated nitric acid that contains dissolved nitrogen dioxide. Nitrous vapours are formed when nitric acid enters in contact with metals organic matter (nitration of cotton or other cellulose containing materials).

Used primarily to produce ammonium nitrate fertilizer. Other uses are in the industry, in the production of metallic nitrates, oxalic, phthalic, and sulphuric acids, nitrites and nitrous acids, trinitrophenol, trinitrotoluene, nitroglycerine, ethylene glycol dinitrates and dyes. It is also used in metal cleaning, jewellery production and pharmaceutical industry.

Toxic effects

☐ Acute irritative effects

Nitric acid is a corrosive irritant to skin, eyes, and mucous membranes. It is not combustible.

Liquid causes second or third degree burns after short contact. Solutions >30% are highly corrosive to skin. Solutions <30% are irritants.

Nitrogen dioxide and nitric oxide are usually present as hazards whenever nitric acid is used.

Occupational exposure may lead to acute pneumonia and pulmonary oedema, which usually develops after a latent period of 6 to 24 hours. In some cases, the latency from oedema onset can reach 72 hours after exposure.

Exposure criteria:

Minimum duration of exposure: Minutes to hours depending on the intensity of exposure

Maximum latent period before onset of disease: 72 hours.

Immediately Dangerous to Life or Health: 25 ppm