

Bromine

Definition of causal agent

Bromine is a highly reactive element with a melting point of -7°C and a boiling point of 59°C . At ambient temperature it is a reddish-brown liquid with a pungent vapour. On dissolution in water it forms hydrobromous/bromic acids which dissociate to release bromide ions that may be absorbed systemically.

Main occupational uses and sources of exposure:

Manufacture of flame-retardants; manufacture of anti-knock compounds (ethylene dibromide) for petrol; manufacture of fumigant (methyl bromide); water treatment; dyes; pesticides; pharmaceuticals; photographic processing. Many of these uses have been restricted or banned in recent years.

Toxic effects

- irritation of the upper and lower respiratory tracts
- pneumonitis, pulmonary oedema
- bronchiolitis obliterans,
- irritation of the eyes
- irritation of the skin, chemical burns, destructive ulcers

Exposure Criteria:

minimum intensity of exposure: well above 1.4 mg/m^3 (0.2 ppm)

minimum duration of exposure: immediate

induction period: immediate

maximum latent period: a few minutes for acute irritant effects;
24 hours for pneumonitis;
several months for bronchiolitis obliterans.