

SUMMARY AND EXPOSURE LIMITS

Compound	Ethylene Oxide	Hydrogen Peroxide	Peracetic Acid
OSHA ¹ 8hr/15min PEL ²	1 ppm / 5 ppm	1 ppm / –	– / –
ACGIH ³ 8hr/15min TLV ⁴	1 ppm / –	1 ppm / –	– / 0.4 ppm
HSE ⁵ 8hr/15 WEL ⁶	5 ppm / –	1 ppm / 2 ppm	– / –
NIOSH ⁷ IDHL ⁸	800 ppm	75 ppm	n/a
Cancer Status	IACR: Carcinogenic to Humans; ACGIH: Suspected Human Carcinogen	IACR: Not Classifiable as to Carcinogenicity in Humans; ACGIH: Confirmed Animal Carcinogen with Unknown Relevance to Humans	ACGIH: Not Classifiable as a Human Carcinogen
Odor Threshold	400 to 700 ppm	Almost no odor	50 ppb

¹ OSHA Occupational Safety and Health Administration

² PEL Permissible Exposure Limit

³ ACGIH American Conference of Governmental Industrial Hygienists

⁴ TLV Threshold Limit Value

⁵ HSE Health, Safety, and the Environment, UK

⁶ WEL Workplace Exposure Limit

⁷ NIOSH National Institute for Occupational Safety and Health

⁸ IDLH Immediately Dangerous to Life and Health

PERACETIC ACID

- Peracetic acid is very corrosive and on contact can severely irritate and burn the skin and eyes.
- Inhalation of the vapor can irritate the nose and throat, cause coughing and/or shortness of breath.

- Greater exposure can cause a pulmonary edema with severe shortness of breath (medical emergency) and may affect liver and kidneys.

HYDROGEN PEROXIDE

- Hydrogen peroxide can be toxic if ingested, inhaled, or by contact with the skin or eyes.
- Inhalation of vapors from > 10% solutions may result in severe pulmonary irritation.
- Eye exposure to 3% hydrogen peroxide may result in pain and irritation, but severe injury is rare. More concentrated solution may result in ulceration or perforation of the cornea.
- Skin with concentrated solutions may cause severe skin burns with blisters.

ETHYLENE OXIDE

- Acute exposures to EtO gas may result in respiratory irritation and lung injury, headache, nausea, vomiting, diarrhea, shortness of breath, and cyanosis.
- Chronic exposure has been associated with the occurrence of cancer, reproductive effects, mutagenic changes, neurotoxicity, and sensitization.

IACR Classification of Carcinogens:

Group 1: carcinogenic to humans.

Group 2A: probably carcinogenic to humans.

Group 2B: possibly carcinogenic to humans.

Group 3: not classifiable as to carcinogenicity in humans.

Group 4: probably not carcinogenic to humans.

ACGIH Classification of Carcinogens:

A1) Confirmed human Carcinogen

A2) Suspected Human Carcinogen

A3) Confirmed Animal Carcinogen with Unknown Relevance to Humans

A4) Not Classifiable as a Human Carcinogen

A5) Not suspected as a Human Carcinogen

Source - <http://www.chemdaq.com/resources/health-risks/>