CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Acetic Acid (glacial) CH_3COOH CAS No.: 64-19-7

Synonyms: ethanoic acid, ethylic acid, methanecarboxylic acid

Physical Properties

Colorless combustible liquid (or solid at or below room temperatures) with a pungent odor

Vapor pressure at 20 °C:	12 Torr
Melting point:	16 °C
Boiling point:	118 °C
Flash point:	40 °C

Exposure Limits

OSHA PEL:	10 ppm
ACGIH TLV:	10 ppm
ACGIH STEL/C:	15 ppm

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
2	2	3	No	No	No	Bases, oxidizing agents, many metals*

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe

***Reaction with:**

• Bases and with oxidizing agents is exothermic and can be violent. • Many metals produce hydrogen, a flammable and explosive gas. See Bretherick's *Handbook of Reactive Chemical Hazards* for details and for other incompatibilities.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9? No

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace*? No

Typical symptoms of acute exposures:

Tissue destruction of eyes, skin, or mucous membranes with pain, severe discomfort, or stinging sensation. Coughing, sore throat, difficulty in breathing if inhaled; may cause lung oedema but symptoms may be delayed. Acidic or sour taste if in mouth with destruction of teeth and mouth tissues. Sore throat and/or abdominal pain if swallowed.

Principal target organ(s) or system(s):

Eyes, skin, respiratory system.

Storage Requirements

Separate from bases, oxidizing acids, and other oxidizing agents; with other organic acids in a cool, dry, well-ventilated location away from ignition sources.

Additional Remarks

Vapors are denser than air and can travel long distances, collecting in low spots. Forms explosive vapor–air mixtures above 40 °C. The information in this CLIP should not be construed as applying in entirety to vinegar, a 4–5% aqueous solution of acetic acid with other substances also present.

Notes

ReadMe

This Chemical Laboratory Information Profile is ***not*** a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed.* For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at *www.sis.nlm.nih.gov* and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed.* See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists–Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m^3—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration–Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

Prepared by: Jay A. Young

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