MATERIAL SAFETY DATA SHEET

GENIUM PUBLISHING CORPORATION
1145 CATALYN STREET
SCHENECTADY, NY 12303-1836 USA
(518) 377-8855

GENIUM PUBLISHING CORP.

NO. 327
ACETIC ACID, GLACIAL
Revision B

Date December 1980

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: ACETIC ACID, GLACIAL
OTHER DESIGNATIONS: Ethanoic Acid, Anhydrous Acetic Acid, Methane Carboxylic Acid, CH_3COOH, GE Material D5C26, CAS #000 064 197
MANUFACTURER: Available from many suppliers.

SECTION II. INGREDIENTS AND HAZARDS	%	HAZARD DATA
Acetic Acid (CH_3COOH)	99.5% minimum	8-hr TWA 25 mg/m^3 or 10 ppm*
*Current OSHA standard and ACGIH (1980) TLV.		Human, oral TDLo 1470 µg/kg Gastrointestinal Tract Effects

SECTION III. PHYSICAL DATA

Boiling pt, 1 atm, deg F (C) ---- 244 (118)
Vapor pressure at 25 C, mm Hg --- 14.8
Vapor density (Air=1) ---------- 2.07
Solubility in water ---------- Soluble
Specific gravity, 20/4 C ----- 1.05
Freezing point, deg F (C) ---- 62 (16.6)
Molecular weight ---------- 60.06

Appearance & Odor: Clear, colorless, mobile liquid with a characteristic, sharp and pungent, vinegar-like odor which is perceptible (unfatigued) above 1 ppm.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air % by volume	LOWER	UPPER
112 F (44.5 C) (TOC)	800 F (427 C)		4	16 19.9 @ 200

Extinguishing Media: Use water spray, dry chemical, alcohol foam, or CO_2. Water spray can be used to flush spills away from exposures and to dilute spills to nonflammable mixtures. Use water to keep fire-exposed containers cool. Glacial acetic acid is a combustible liquid.
Water diluted acid can react with metals to produce hydrogen gas.
Firefighters to wear self-contained breathing apparatus to protect against suffocating and corrosive vapors when this material is involved in a fire situation.

SECTION V. REACTIVITY DATA

This material is a stable chemical when stored and handled properly.
It may react violently with such chemicals as ammonium nitrate, phosphorous trichloride, potassium hydroxide and other alkaline materials, and strong oxidizing agents.
Reacts readily with most common metals (except aluminum), basic salts, amines, etc., to form water-soluble salts. Reacts with alcohol to form esters.
Nitric acid or chromic acid can explode with acetic acid if not kept cold.
Mixing chlorosulfonic acid, 2-aminoethanol, oleum, or ethylene diamine with acetic acid in a closed container can cause the temperature and pressure to increase.
Contracts slightly on freezing.

CTION VI. HEALTH HAZARD INFORMATION

TLV 10 ppm or 25 mg/m^3

lation of vapor concentrations over 50 ppm intolerable, resulting in irritation of
ıe eyes, nose, throat, and lungs. Repeated exposure to high concentrations may pro-
ıce congestion of the pharynx. Neither odor nor degree of irritation are adequate to
ıdicate vapor concentrations. Skin contact can produce deep burns, with skin destruc-
.on. High vapor concentrations may blacken the skin, produce skin sensitization, con-
ınctivitis, and erosion of exposed teeth. Eye contact will cause immediate burns and
ɔssible permanent damage. Ingestion is improbable as the odor would be extremely ir-
ıtating; but severe intestinal irritation would result with burns to the mouth and the
ɔper respiratory tract.

ST AID:

ye Contact: Irrigate with water immediately for at least 15 minutes, including under eyelids..

kin Contact: Wash immediately with copious water.

nhalation: Remove victim to fresh air; rinse mouth and nasal passages. Administer artificial respiration or oxygen if needed.

ngestion: Rinse mouth. Give 3 glasses milk or water. Do not intubate stomach or stimulate vomiting.

prompt medical help for further treatment, observation and support.

ECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

tify safety personnel. Provide adequate ventilation. Personnel cleaning up large
ɜpills should wear self-contained breathing apparatus and equipment to prevent contact
ɯith the liquid. If a leak or spill has not ignited, use water spray to dispense the
vapors and to protect men attempting to stop a leak. Liquid surfaces of small spills
or residue should be covered with sodium bicarbonate and flushed with a large excess
of water to the sewer. Contain and pick up large spills, if possible, for waste disposal.
SPOSAL: Dispose of waste material by incineration; or dispose of neutralized waste in a landfill. Follow Federal, State, and Local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

rovide adequate exhaust ventilation to meet TLV requirements. Exhaust hoods should have air velocity of 100 lfm minimum. Wear rubber gloves, aprons, etc to prevent skin contact. Splash proof goggles or face shields should be worn to prevent any eye contact. Gas tight goggles may also be required to prevent vapor irritation of the eyes.
yewash stations and showers must be readily available where this material is handled.
.espirators should be available for nonroutine or emergency use. Where fumes are below 500 ppm, a chemical cartridge organic vapor respirator with full facepiece or a self-contained breathing apparatus with full facepiece is warranted; fumes up to 1000 ppm require a Type C air-supplied respirator with full facepiece operated in pressure-demand mode.
Preclude from exposure individuals with disease of eyes, skin and respiratory tract.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Use with adequate ventilation. Exhaust ducts for ventilation should be acid resistant. Detached storage preferred. Store in sealed containers away from oxidizing agents and combustible materials. Glass, polyethylene, Type 316 stainless steel containers are suitable.
Prevent skin and eye contact as this acid is highly corrosive to body tissues.
Olfactory detection at 1 ppm is well below the TLV; however, documentation shows workers can tolerate up to 200 ppm, probably due to olfactory fatigue. Suspected areas of high acetic acid concentrations or variable concentrations should be tested before employee exposure.

DOT Classification - CORROSIVE MATERIAL, LABEL: ~~CORROSIVE~~.
DATA SOURCE(S) CODE: 2-12,15,23-26,31,34,37-39

APPROVALS: MIS J. W. Nielsen
CRD
Industrial Hygiene and Safety 12-8-80
MEDICAL REVIEW: 16 Dec. 1980