**** MATERIAL SAFETY DATA SHEET ****

Acetic Acid, Glacial
00120

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Acetic Acid, Glacial
Catalog Numbers:
S70048, S70048-1SC, S70048SC, A35 500, A35-500, A35500, A38 212, A38 500, A38-212, A38-500, A38-56LB, A38212, A38450LB, A38450LB01, A38500, A38500LC, A38C 212, A38C-2.5, A38C-212, A38C212, A38FP 500, A38FP500, A38J500, A38P 20, A38P 500, A38P-20, A38P20, A38P500, A38S 212, A38S 500, A38S-2.5, A38S-212, A38S-500, A38S212, A38S212EA, A38S500, A38SI 212, A38SI-212, A38SI212, A465 1, A465 250, A465-1, A465-250, A4651, A465250, A490 212, A490-212, A490212, A490212001, A490212LC, A507 212, A507 500, A507-212, A507-500, A507212, A507500, BP1185 500, BP1185-500, BP1185500, NC9532182, S70048-1MF*, S70048-1SCMF*, S70048-2MF, S700481MF, S700481SC, S700481SCMF, S700482MF, XXA490EP450LB
Synonyms:
Ethanoic acid, ethylic acid, glacial acetic acid, methanecarboxylic acid, pyroligeneous acid, vinegar acid.
Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
64-19-7	Acetic acid	97	200-580-7

Hazard Symbols: F C
Risk Phrases: 10 35

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW
Appearance: colourless. Flash Point: 103 deg F.
Danger! Flammable liquid. Corrosive. Causes severe eye and skin burns. Causes severe digestive and respiratory tract burns.
Target Organs: None.

Potential Health Effects
Eye:
Causes severe eye irritation. Contact with liquid or vapor causes severe burns and possible irreversible eye damage.
Skin:
Causes skin burns.
←E
Ingestion:
May cause severe and permanent damage to the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock.
Inhalation:
Effects may be delayed. Causes chemical burns to the respiratory tract.
Chronic:
Prolonged or repeated skin contact may cause dermatitis. Repeated inhalation may cause chronic bronchitis. Repeated exposure may cause erosion of teeth.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:
Flush eyes with plenty of water for at least 15 minutes,

occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin:

Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

Treat symptomatically and supportively.

Antidote:

No specific antidote exists.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Reacts with most metals to form highly flammable hydrogen gas which can form explosive mixtures with air.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers.

Autoignition Temperature: 800 deg F (426.67 deg C)

Flash Point: 103 deg F (39.44 deg C)

(estimated) Health: ; Flammability: ; Reactivity:

Explosion Limits, Lower: 5.4

Upper: 16

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated ←E

in Section 8.

Spills/Leaks:

Use water spray to dilute spill to a non-flammable mixture. Avoid runoff into storm sewers and ditches which lead to waterways. Wash area with soap and water. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Provide ventilation. Cover with material such as dry soda ash or calcium carbonate and place into a closed container for disposal.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid contact with heat, sparks and flame. Do not get on skin or in eyes. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage:

Keep away from heat, sparks, and flame. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Store in a suitable container in a dry area above the substance's freezing point. Do not store near alkaline substances.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Acetic acid	10 ppm ; 25 mg/m3; 15 ppm STEL; 37 mg/m3 STEL	10 ppm TWA; 25 mg/m3 TWA 50 ppm IDLH	10 ppm TWA; 25 mg/m3 TWA

OSHA Vacated PELs:

Acetic acid:

10 ppm TWA; 25 mg/m3 TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

←E

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State:	Liquid
Appearance:	colourless
Odor:	pungent odor - acetic odor
pH:	2.4 (1M), 2.9 (0.1M)
Vapor Pressure:	11.4 mm Hg
Vapor Density:	2.10 (Air=1)
Evaporation Rate:	0.97 (n-Butyl acetate=1)
Viscosity:	1.22 cP
Boiling Point:	244 deg F
Freezing/Melting Point:	62 deg F
Decomposition Temperature:	Not available.
Solubility:	Soluble in water; releases heat/vapor.
Specific Gravity/Density:	1.05 (Water=1)
Molecular Formula:	C2H4O2
Molecular Weight:	60.0268

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

Incompatible materials, ignition sources, excess heat.

Incompatibilities with Other Materials:

Acetaldehyde, 2-aminoethanol, ammonium nitrate, bromine pentafluoride, chlorine trifluoride, chlorosulfonic acid, chromic acid, chromic anhydride + acetic anhydride, diallyl methyl carbinol + ozone, ethylene diamine, ethyleneimine, hydrogen peroxide, nitric acid, nitric acid + acetone, oleum, perchloric acid, permanganates, phosphorus isocyanate, phosphorus trichloride, potassium hydroxide, potassium-t-butoxide, sodium hydroxide, sodium peroxide, and xylene. See NFPA Fire Protection Guide for specifics.

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Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 64-19-7: AF1225000
LD50/LC50:
CAS# 64-19-7: Inhalation, mouse: LC50 =5620 ppm/1H; Oral, rat: LD50 = 3310 mg/kg; Skin, rabbit: LD50 = 1060 mg/kg.
Carcinogenicity:
←E
Acetic acid -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
No information available.
Teratogenicity:
Effects on Newborn: behavioral, orl-rat TDLo=700 mg/kg.
Reproductive Effects:
Fertility: male index, itt-rat TDLo=400 mg/kg.
Neurotoxicity:
No information available.
Mutagenicity:
No information available.
Other Studies:
None.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Bluegill (fresh water) TLm=75 ppm/96H Goldfish (fresh water) TLm=100 ppm/96H Shrimp (aerated water) LC50=100-330 ppm/48H
Environmental Fate:
Substance spreads on soil surface and penetrates at rate dependent on soil type and water content. Substance readily degrades in water and shows little potential for bioaccumulation.
Physical/Chemical:
No information available.
Other:
None.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA D-Series Maximum Concentration of Contaminants:
None listed.
RCRA D-Series Chronic Toxicity Reference Levels: None listed.
RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: None listed.
Not listed as a material banned from land disposal according to RCRA.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
Shipping Name: ACETIC ACID, GLACIAL
Hazard Class: 8
UN Number: UN2789
Packing Group: II
IMO
No information available.
IATA
No information available.
RID/ADR
No information available.
←E
Canadian TDG

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Shipping Name: ACETIC ACID GLACIAL
Hazard Class: 8(9.2)
UN Number: UN2789

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 64-19-7 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA
Section 302 (RQ)
CAS# 64-19-7: final RQ = 5000 pounds (2270 kg)
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 64-19-7: acute, chronic, flammable.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
CAS# 64-19-7 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
Acetic acid can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
California No Significant Risk Level:
None of the chemicals in this product are listed.
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: F C
Risk Phrases:
R 10 Flammable.
R 35 Causes severe burns.
Safety Phrases:
S 23 Do not inhale gas/fumes/vapour/spray.
S 26 In case of contact with eyes, rinse immediately
←E
with plenty of water and seek medical advice.
S 45 In case of accident of if you feel unwell, seek medical advice immediately (show the label where possible).
WGK (Water Danger/Protection)
CAS# 64-19-7: 1
Canada
CAS# 64-19-7 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of B3, E.
CAS# 64-19-7 is not listed on Canada's Ingredient Disclosure List.
Exposure Limits
CAS# 64-19-7:. OEL-AUSTRALIA:TWA 10 ppm (25 mg/m3);STEL 15 ppm (37 mg/m3). OEL-AUSTRIA:TWA 10 ppm (25 mg/m3). OEL-BELGIUM:TWA 10 ppm (25 mg/m3);STEL 15 ppm (37 mg/m3). OEL-CZECHOSLOVAKIA:TWA 25 mg/m3;STEL 50 mg/m3. OEL-DENMARK:TWA 10 ppm (25 mg/m3). OEL-FINLAND:TWA 10 ppm (25 mg

/m3);STEL 15 ppm (37 mg/m3);Skin. OEL-FRANCE:STEL 10 ppm (25 mg/m3). C
EL-GERMANY:TWA 10 ppm (25 mg/m3). OEL-HUNGARY:TWA 10 mg/m3;STEL 20 mg/
m3. OEL-INDIA:TWA 10 ppm (25 mg/m3);STEL 15 ppm (37 mg/m3). OEL-JAPAN:
TWA 10 ppm (25 mg/m3). OEL-THE NETHERLANDS:TWA 10 ppm (25 mg/m3). OEL-
THE PHILIPPINES:TWA 10 ppm (25 mg/m3). OEL-POLAND:TWA 5 mg/m3. OEL-RUS
SIA:TWA 10 ppm;STEL 5 mg/m3;Skin. OEL-SWEDEN:TWA 10 ppm (25 mg/m3);STE
L 15 ppm (35 mg/m3). OEL-SWITZERLAND:TWA 10 ppm (25 mg/m3);STEL 20 ppm
(50 mg/m3). OEL-THAILAND:TWA 10 ppm (25 mg/m3). OEL-TURKEY:TWA 10 ppm
(25 mg/m3). OEL-UNITED KINGDOM:TWA 10 ppm (25 mg/m3);STEL 15 ppm (35
mg/m3). OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV. OEL
IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 12/02/1994 Revision #21 Date: 12/12/1997

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