

**AERCHEM INC.**  
**320 North Walnut**  
**Bloomington, IN 47408**

Telephone: 812.334.9996

Fax: 812.334.1960

Emergency: 800.424.9300

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**SECTION 1: IDENTIFICATION**

**Effective Date:** 8/7/97  
**Product Name:** ACETIC ANHYDRIDE  
**Common Name:** acetic acid, anhydride  
**Chemical Formula:** C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>  
**CAS No.:** 000108-24-7 - acetic anhydride 94-100%  
000064-19-7 - acetic acid 0-6%

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**SECTION 2: HAZARDOUS INGREDIENTS:**

Causes severe skin and eye burns. Reacts violently with water. Harmful if swallowed. Vapor irritating to eyes and respiratory tract. Combustible liquid and vapor

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**SECTION 3: PHYSICAL DATA**

Appearance and Odor:	liquid, colorless, pungent acrid odor
Boiling point:(760 mmHg)	139°C (282°F)
Vapor Pressure (mmHg):	5.02 mbar (3.8 mmHg)
Specific Gravity (Water = 1):	1.083
Solubility in water:(by weight)	decomposes
Melting Point:	-73°C (-99°F)
Vapor Density:	3.5
Viscosity @ 20°C	0.91 mPa.s or cP

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**SECTION 4: FIRE AND EXPLOSION DATA**

Flash point:	tag closed cup: 53°C (127°F)
Flammable limit:	lower @ 81°C: 2.75 volume %; upper @ 129°C: 12.4 volume %
Extinguishing Media:	water spray, dry chemical, carbon dioxide, alcohol foam
Fire Fighting Procedures:	Wear self contained breathing apparatus and protective clothing. Use water spray to keep fire-exposed containers cool. Use water with caution because reacts with water.
Unusual Fire and Explosion Hazards:	combustible; reacts violently with water

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**SECTION 5: REACTIVITY DATA**

Stable   X   Unstable           

**Incompatibilities:** strong oxidizing agents, water, alcohols, bases  
**Hazardous Polymerization:** will not occur

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**SECTION 6: HEALTH HAZARD DATA**

**Threshold Limit Value (TLV):** acetic anhydride: 5 ppm TWA  
acetic acid: 10 ppm TWA, 15 ppm STEL

**Permissible Exposure Limit:** acetic anhydride: 5 ppm ceiling  
acetic acid: 10 ppm TWA

**Toxicity:**

Oral LD50 (rat):	1780 mg/kg
Inhalation LD-50 rat:	1000-2000 ppm/4 hrs
Dermal LD50 rabbit:	4000 mg/kg

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Skin irritation rabbit:

slight

Eye irritation rabbit:

severe

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**SECTION 7: SPILLAGE AND DISPOSAL PROCEDURES**

**Spillage:** Eliminate all ignition sources. Neutralize with: lime, soda ash. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. For large spills, use water spray to disperse vapors and flush spill area. Prevent runoff from entering drains, sewers, or streams.

**Disposal:** Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate. Since emptied containers retain product residue, follow label warning even after container is emptied.

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**SECTION 8: FIRST AID PROCEDURES**

**Eyes:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call physician or poison control center.

**Skin:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

**Ingestion:** Do not induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center.

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**SECTION 9: PRECAUTION TO BE TAKEN IN HANDLING AND STORING**

Do not get in eyes, on skin, on clothing. Do not taste or swallow. Avoid breathing vapor. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from heat and flame. Keep from oxidizing agents. Do not allow water to get into container. May develop pressure if exposed to water. Keep container tightly closed.

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**SECTION 10: SPECIAL PROTECTION INFORMATION**

**Ventilation:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

**Eye Protection:** Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

**Protective Gloves:** Wear chemical resistant gloves, boots, and protective clothing appropriate for risk of exposure

**Respiratory Protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: organic vapor. If respirators are used, a program should be instituted to assure compliance with OSHA standard 29 CFR 1910.134

**Other Protective Gear:** eye bath, safety shower, washing facilities

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**SECTION 11: TRANSPORT INFORMATION**

**DOT classification:** UN1715, class 8 primary risk, PG II; class 3 subsidiary risk, PG III, packing instructions 809; Corrosive & flammable

**DOT pictograms:** corrosive-8 and flammable-3

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**SECTION 12: ECOLOGICAL INFORMATION**

Material has the following properties: a high biochemical oxygen demand and potential to cause oxygen depletion in aqueous systems, a low potential to bioconcentrate, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge, a moderate potential to affect some aquatic organisms. Not expected to have a significant impact in environment when diluted in large amount of water.

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Acute aquatic effects data for acetic anhydride:

96-h EC-50 daphnid: 55 mg/L

48-h LC-50 golden orfe: 265-279 mg/l