Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Corrosive to eyes and skin on contact.** **Combustible material; avoid heat and sources of ignition.** **Environmental hazard.** **This material is harmful to aquatic organisms and may cause long term adverse effects to the aquatic environment.** **Harmful compound, minimize exposure.** **Lachrymator.** **Moisture sensitive material.** **Store under argon.**	

Section I. Chemical Product and Company Identification

Chemical Name: **Acetic Anhydride**
[for General Organic Chemistry]

Catalog Number: A2036

Synonym: Not available.

Chemical Formula: $C_4H_6O_3$

CAS Number: 108-24-7

Supplier: TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

In case of Emergency Call: **Chemtrec®**
(800) 424-9300 (U.S.)
(703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Acetic Anhydride [for General Organic Chemistry]	108-24-7	Min. 99.0 (T)	Not available.	Not available.

Section III. Hazards Identification

Acute Health Effects

Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested.
Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section IV. First Aid Measures

Eye Contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation

If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.

Ingestion

DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability: Combustible.

Auto-Ignition: 316℃ (600.8℉)

Flash Points: 49℃ (120.2℉).

Flammable Limits: LOWER: 2.7% UPPER: 10.3%

Combustion Products: These products are toxic carbon oxides (CO, CO_2).

Fire Hazards: Not available.

Explosion Hazards: Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Continued on Next Page

Combustible liquid.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release Measures

Spill Cleanup Instructions

Corrosive material. Combustible material. Environmentally hazardous material. Harmful material. Lachrymatory material. Moisture sensitive material.
Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information

CORROSIVE. COMBUSTIBLE. ENVIRONMENTAL HAZARD. HARMFUL. LACHRYMATOR. MOISTURE SENSITIVE. STORE UNDER ARGON. Keep container dry. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively.
Always store away from incompatible compounds such as oxidizing agents, reducing agents, acids, alkalis (bases).

Section VIII. Exposure Controls/Personal Protection

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

Personal Protection

Face shield. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent.

Exposure Limits

Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear. Colorless.)	Solubility	Soluble in benzene; Slightly soluble in water.
Specific Gravity	1.08 (water=1)		
Molecular Weight	102.09	Partition Coefficient	LOG P_{ow}: -0.27
Boiling Point	140°C (284°F)	Vapor Pressure	0.5 kPa (@ 20°C)
Melting Point	-73°C (-99.4°F)	Vapor Density	3.5 (Air = 1)
Refractive Index	1.39	Volatility	Not available.
Critical Temperature	Not available.	Odor	Pungent.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability

This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability

Avoid excessive heat and light. Moisture sensitive.

Incompatibilities

Reactive with oxidizing agents, reducing agents, strong acids, strong alkalis (bases), water, alcohols, amines, powdered metals.

Section XI. Toxicological Information

RTECS Number

AK1925000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Not available.

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
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Continued on Next Page **Emergency phone number (800) 424-9300**

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Acetic anhydride's production and use in the preparation of cellulose acetate fibers and plastics, and as a dehydrating and acetylating agent may result in its release to the environment through various waste streams. If released to air, a vapor pressure of 5.1 mm Hg at 25 deg C indicates acetic anhydride will exist solely as a vapor in the ambient atmosphere. Vapor-phase acetic anhydride will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 190 days. Acetic anhydride does not absorb light with wavelengths >290 nm and is not expected to be susceptible to direct photolysis by sunlight. If released to soil, the major fate of acetic anhydride is expected to be hydrolysis. Acetic anhydride may volatilize from dry soil surfaces based upon its vapor pressure. If released into water, acetic anhydride will rapidly hydrolyze; the half-life of acetic anhydride in water is 4.4 minutes at 25 deg C. Bioconcentration of acetic anhydride in aquatic organisms is unlikely due its rapid hydrolysis. Occupational exposure to acetic anhydride may occur through inhalation and dermal contact with this compound at workplaces where acetic anhydride is produced or used. No monitoring data were found for acetic anhydride. Due to acetic anhydride's rapid hydrolysis, it is unlikely that the general population would be exposed to this chemical; however, acetic anhydride may exist as a vapor in dry air.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

Section XIV. Transport Information

DOT Classification	DOT CLASS 8: Corrosive material DOT CLASS 3: Flammable liquid
PIN Number	UN1715
Proper Shipping Name	Acetic Anhydride
Packing Group (PG)	II
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS E: Corrosive liquid. On DSL.
EINECS Number (EEC)	203-564-8
EEC Risk Statements	R34- Causes burns. R52- Harmful to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
Japanese Regulatory Data	ENCS no.: 2-690

Section XVI. Other Information

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Notice to Reader