

**Acetic Anhydride**

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**1. PRODUCT AND COMPANY IDENTIFICATION**

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**Product Name:** Acetic Anhydride

**Synonyms/Generic Names:** None

**SDS Number:** 4.50

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

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**2. HAZARDS IDENTIFICATION**

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**OSHA Hazards:** Combustible liquid, Toxic by inhalation, Harmful ingestion, Corrosive

**Other Hazards:** Lachrymator, Reacts violently with water

**Target Organs:** None

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

Flammable liquids	Category 3
Acute toxicity, Oral	Category 4
Acute toxicity, Inhalation	Category 3
Acute toxicity, Dermal	Category 5
Skin corrosion	Category 1B
Serious eye damage	Category 1

## GHS Label Elements, including precautionary statements:

### Hazard Statements:

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H313	May be harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.

### Precautionary Statements:

P261	Avoid breathing dust/gas/fume/vapors/spray/mist.
P280	Wear protective gloves/protective clothing/face protection/eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.

### Potential Health Effects

<b>Eyes</b>	Causes eye irritation
<b>Inhalation</b>	Harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	May be fatal if swallowed

### NFPA Ratings

<b>Health</b>	3
<b>Flammability</b>	2
<b>Reactivity</b>	2
<b>Specific hazard</b>	Not Available

### HMIS Ratings

<b>Health</b>	3
<b>Fire</b>	2
<b>Reactivity</b>	2
<b>Personal</b>	H

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Acetic Anhydride	>99	108-24-7	203-564-8	C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	102.09 g/mol

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## 4. FIRST-AID MEASURES

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<b>Eyes</b>	Rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

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## 5. FIRE-FIGHTING MEASURES

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<b>Suitable (and unsuitable) extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Flammable in the presence of a source of ignition when temperature is above the flash point. Can react violently with water.

<b>Specific hazards arising from the chemical</b>	Emits toxic fumes under fire conditions. (Carbon oxides) (See also Stability and Reactivity section).
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## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Prevent spillage from entering drains. Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Reacts violently with water.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Acetic Anhydride	5 ppm 20 mg/m <sup>3</sup>	PEL	OSHA
	5 ppm 20 mg/m <sup>3</sup>	REL	NIOSH
	5 ppm	TLV	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles with a face shield for splash protection.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, and full body, flame retardant, antistatic, protective suit. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance (physical state, color, etc.)	Faintly colored liquid
Odor	Pungent
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	-73°C (-101°F)
Initial boiling point and boiling range	139°C (282°F)
Flash point	49°C (121°C) – Closed cup
Evaporation rate	0.49
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	Lower: 2.9%, Upper: 10.3%
Vapor pressure	4 mmHg (@ 20°C)
Vapor density	3.5 (Air=1)
Relative density	Not Available
Solubility (ies)	Soluble in water
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	316°C (600°F)
Decomposition temperature	Not Available

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Heat, ignition sources, moisture.
<b>Incompatible Materials</b>	Acids, alcohols, bases, oxidizing agents, reducing agents, powdered metals.
<b>Hazardous Decomposition Products</b>	Carbon oxides

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

<b>Skin</b>	LD50 Dermal – rabbit – 4,320 mg/kg
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC50 Inhalation – rat – 4 hours – 4,200 mg/m <sup>3</sup>
<b>Ingestion</b>	LD50 Oral – rat – 1,780 mg/kg

### Carcinogenicity

<b>IARC</b>	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Burning, irritation, inflammation and/or edema of exposed tissues.
<b>Eyes</b>	Burning, irritation.
<b>Respiratory</b>	Burning, coughing, wheezing, shortness of breath, headache, nausea, vomiting, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema.
<b>Ingestion</b>	Burning, nausea, vomiting.

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	LC50 – <i>Leuciscus idus melanotus</i> – 265 mg/l – 48 hours
<b>Aquatic Invertebrate</b>	EC50 – <i>Daphnia magna</i> (Water flea) – 55 mg/l – 96 hours
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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US DOT	UN1715, Acetic anhydride, 8, (3), pg II
TDG	UN1715, ACETIC ANHYDRIDE, 8, (3), PG II
IMDG	UN1715, ACETIC ANHYDRIDE, 8, (3), PG II
Marine Pollutant	No
IATA/ICAO	UN1715, Acetic anhydride, 8, (3), pg II

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Fire Hazard, Acute Health Hazard
SARA 312	Fire Hazard, Acute Health Hazard
SARA 313	Not Listed
WHMIS Canada	Class B-3: Combustible liquid. Class E: Corrosive liquid.

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## 6. OTHER INFORMATION

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Revision	Date
Revision 1	01/28/2013
Revision 2	06/19/2013

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