

## Carnoy's Solution



MSDS # 169.00

**Section 1: Product and Company Identification**
**Carnoy's Solution**
**Synonyms/General Names:** N/A

**Product Use:** For educational use only

**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.

**24 Hour Emergency Information Telephone Numbers**
**CHEMTREC (USA): 800-424-9300**
**CANUTEC (Canada): 613-424-6666**

ScholAR Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

**Section 2: Hazards Identification**
*Clear, colorless liquid, vinegar and alcohol odor*
**HMIS (0 to 4)**

Health	3
Fire Hazard	3
Reactivity	0

**WARNING!** Toxic by ingestion and inhalation, severe body tissue irritant, flammable liquid.

Target organs: Central nervous system, liver, kidneys, eyes.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Section 3: Composition / Information on Ingredients**

Ethyl Alcohol, Denatured, (64-17-5), 59%.

Chloroform, (67-66-3), 30%.

Acetic Acid, Glacial, (64-19-7), 11%.

**Section 4: First Aid Measures**
*Always seek professional medical attention after first aid measures are provided.*
**Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.

**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.

**Ingestion:** Call Poison Control immediately. **Aspiration hazard.** Rinse mouth with cold water. Give victim 1-2 tbsp of activated charcoal mixed with 8 oz water.

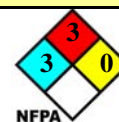
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.

**Section 5: Fire Fighting Measures**

Flammable Liquid. When heated to decomposition, emits acrid fumes

**Protective equipment and precautions for firefighters:** Use foam or dry chemical to extinguish fire.

Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact. Material is sensitive to static discharge.


**Section 6: Accidental Release Measures**

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all ignition sources and ventilate area. Contain spill with sand or absorbent material and place material in a sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

**Section 7: Handling and Storage**
**Red**
**Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.

**Storage:** Store in Flammable Area [Red Storage] with other flammable materials and away from any strong oxidizers. Store in a dedicated flammables cabinet. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

**Section 8: Exposure Controls / Personal Protection**

 Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with an acid/organic cartridge. Exposure guidelines: Ethyl Alcohol: OSHA PEL: 1900 mg/m<sup>3</sup> and ACGIH TLV: 1000 ppm, STEL: N/A, Chloroform: OSHA PEL: 2400 mg/m<sup>3</sup> ceiling, ACGIH TLV: 49 mg/m<sup>3</sup>, STEL: N/A, Acetic Acid: OSHA PEL: 25 mg/m<sup>3</sup> and ACGIH TLV: 25 mg/m<sup>3</sup>, STEL: 37 mg/m<sup>3</sup>.

**Section 9: Physical and Chemical Properties**

<b>Molecular formula</b>	Mixture.	<b>Appearance</b>	Clear, colorless liquid.
<b>Molecular weight</b>	N/A.	<b>Odor</b>	No odor .
<b>Specific Gravity</b>	1.03 g/mL @ 20°C.	<b>Odor Threshold</b>	N/A.
<b>Vapor Density (air=1)</b>	4.12 (Chloroform).	<b>Solubility</b>	Complete.
<b>Melting Point</b>	-65 °C.	<b>Evaporation rate</b>	N/A ( <i>Butyl acetate = 1</i> ).
<b>Boiling Point/Range</b>	Range 61 - 118°C.	<b>Partition Coefficient</b>	N/A ( <i>log P<sub>ow</sub></i> ).
<b>Vapor Pressure (20°C)</b>	N/A.	<b>pH</b>	N/A.
<b>Flash Point:</b>	24°C (75°F).	<b>LEL</b>	3.3%.
<b>Autoignition Temp.:</b>	N/A.	<b>UEL</b>	19 %.

N/A = Not available or applicable

**Section 10: Stability and Reactivity**

Avoid heat and ignition sources.

**Stability:** Stable under normal conditions of use.**Incompatibility:** Strong oxidizers, alkalis.**Shelf life:** Indefinite if stored properly.**Section 11: Toxicology Information**

**Acute Symptoms/Signs of exposure:** *Eyes:* Stinging pain, watering of eyes, inflammation of eyelids and conjunctivitis. *Skin:* Insensitivity to pain, feel of coolness or cold, skin looks white and feels hard and cold. *Ingestion:* Breath has sweet, organic odor, mental confusion, drowsiness, nausea, vomiting and headache. *Inhalation:* Rapid irregular breathing, headache, fatigue, mental confusion, nausea and vomiting, giddiness and poor judgment, convulsions and death.

**Chronic Effects:** Repeated/prolonged skin contact may cause dryness or rashes. **Sensitization:** none expected  
*Ethyl Alcohol:* LD50 [oral, rat]; 7060 mg/kg; LC50 [rat]; 20,000 mg/l (10 hours); LD50 Dermal [rabbit]; 20 mg/24H MOD  
*Chloroform:* LD50 [oral, rat]; 908 mg/kg; LC50 [rat]; 42,702 mg/l (4 hours); LD50 Dermal [rabbit]; 500 mg/24H MOD  
*Acetic Acid:* LD50 [oral, rat]; 3310 mg/kg; LC50 [rat]; 16,000 mg/l (4 hours); LD50 Dermal [rabbit]; 525mg/24H Severe  
Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

**Section 12: Ecological Information****Ecotoxicity (aquatic and terrestrial):** Ecological impact has not been determined**Section 13: Disposal Considerations**

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for sanitary sewer or trash disposal.

**Section 14: Transport Information**

<b>DOT Shipping Name:</b>	Flammable liquid, Toxic. Corrosive, n.o.s., (Ethanol, Chloroform and Acetic Acid).	<b>Canada TDG:</b>	Flammable liquid, Toxic, Corrosive, n.o.s., (Ethanol, Chloroform and Acetic Acid).
<b>DOT Hazard Class:</b>	3 (6.1, pg II .	<b>Hazard Class:</b>	3 (6.1, pg II .
<b>Identification Number:</b>	UN3286 .	<b>UN Number:</b>	UN3286 .

**Section 15: Regulatory Information****EINECS:** Not listed.**WHMIS Canada:** Not WHMIS controlled.**TSCA:** All components are listed or are exempt.**California Proposition 65:** not listed.

*The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.*

**Section 16: Other Information****Current Issue Date:** January 23, 2009

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