

MSDS

## Material Safety Data Sheet

### Section 1: Chemical Product and Company Identification

<b>Catalog Number:</b> C-290, R1851000	
<b>Product Identity:</b> CARNOY'S SOLUTION (FIXATIVE)	
<b>Manufacturer's Name:</b> RICCA CHEMICAL COMPANY LLC	<b>Emergency Contact(24 hr) -- CHEMTREC®</b> Domestic: 800-424-9300 International: 703-527-3887
<b>CAGE Code:</b> 4TCW6, 0V553, 4XZQ2	
<b>Address:</b> 448 West Fork Dr Arlington, TX 76012	<b>Telephone Number For Information:</b> 817-461-5601
<b>Date Prepared:</b> 8/24/05	<b>Revision: 1</b>  Last Revised: 11/03/2005 Date Printed: 12/30/2010 2:52:09 pm

### Section 2. Composition/Information on Ingredients

Component	CAS Registry #	Concentration	ACGIH TLV	OSHA PEL
Ethyl Alcohol (Ethanol)	64-17-5	52 - 56	1000 ppm 1880 mg/m3	1000 ppm 1900 mg/m3
Acetic Acid	64-19-7	9 - 11	10 ppm 25 mg/m3	10 ppm 25 mg/m3
Methanol (Methyl Alcohol)	67-56-1	2 - 3	200 ppm 262 mg/m3	200 ppm 260 mg/m3
Isopropyl Alcohol (Isopropanol, 2-Propanol)	67-63-0	2 - 3	400 ppm 983 mg/m3	400 ppm 980 mg/m3
Chloroform (Trichloromethane)	67-66-3	29 - 31	10 ppm 49 mg/m3	C 50 ppm C 240 mg/m3

### Section 3: Hazard Identification

**Emergency Overview:** DANGER! Flammable and Toxic. Contains Chloroform, a suspected carcinogen. Keep away from heat, sparks, and open flames. May be fatal if swallowed. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. Use with adequate ventilation. If swallowed, dilute with water and induce vomiting. Call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention.

**Target Organs:** eyes, skin, central nervous system, respiratory system, liver, pancreas, kidneys, cardiovascular system, teeth, gastrointestinal system.

**Eye Contact:** May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

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**Inhalation:** May cause irritation of the eyes, nose and mucosa of the respiratory tract. Exposure to high concentrations can cause depression of the central nervous system with symptoms of sleepiness, lack of concentration, headache, and dizziness.

**Skin Contact:** Results in drying and cracking which can lead to secondary infections and dermatitis.

**Ingestion:** Symptoms can include sleep disorders, hallucinations, distorted perceptions, ataxia, motor function changes, convulsions and tremors, coma, headaches, pulmonary changes, alteration of gastric secretions.

**Chronic Effects/Carcinogenicity:** None

**IARC** - Chloroform (Trichloromethane) is possibly carcinogenic to humans. Isopropyl Alcohol (Isopropanol, 2-Propanol) is unclassifiable as to carcinogenicity to humans. Isopropyl Alcohol (Isopropanol, 2-Propanol) is unclassifiable as to carcinogenicity to humans. Chloroform (Trichloromethane) is possibly carcinogenic to humans.

**NTP** - Chloroform (Trichloromethane) - - Substances or groups of substances, and medical treatments which may reasonably be anticipated to be carcinogens. Chloroform (Trichloromethane) - - Substances or groups of substances, and medical treatments which may reasonably be anticipated to be carcinogens.

**OSHA** - No.

**Reproductive Information:** Reproductive effects cited in 'Registry of Toxic Effects of Chemical Substances' for Chloroform (Trichloromethane).

Reproductive effects cited in 'Registry of Toxic Effects of Chemical Substances' for Ethyl Alcohol (Ethanol). Reproductive effects cited in 'Registry of

**Teratology (Birth Defect) Information:** Mutation data cited in 'Registry of Toxic Effects of Chemical Substances' for Chloroform (Trichloromethane).

Mutation data cited in 'Registry of Toxic Effects of Chemical Substances' for Ethyl Alcohol (Ethanol). Mutation data cited in 'Registry of Toxic Effects of

### Section 4: First Aid Measures - In all cases, seek qualified evaluation.

**Eye Contact:** Irrigate immediately with large quantity of water for at least 15 minutes. Get medical attention immediately.

**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

**Skin Contact:** Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops.

**Ingestion:** Dilute immediately with water or milk. Induce vomiting. Call a physician.

### Section 5: Fire Fighting Measures

**Flash Point:** approximately 24°C

**Method Used:** CC

**LFL:** Not Available.

**UFL:** Not Available.

**Extinguishing Media:** Use water spray, dry chemical, alcohol foam, or carbon dioxide for extinguishing the surrounding fire. Water spray can be used to dilute spills to non-flammable mixtures.

**Fire & Explosion Hazards:** Vapors can flow along surfaces to distant ignition source and flashback. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Explosion hazard when exposed to heat, flame or oxidizers.

**Fire Fighting Instructions:** Poisonous gases are produced in fire. Continue to cool containers with water after fire is extinguished. For larger fires, use unmanned hose apparatus, if possible. Consider down wind conditions. Do not release runoff from fire-fighting measures to sewers or waterways.

**Fire Fighting Equipment:** Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### Section 6: Accidental Release Measures

Remove all sources of ignition. Contain spill. Do not flush to sewer. Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal in an approved waste disposal facility. Ventilate area of spill. Have extinguishing agent available in case of fire. Use non-sparking tools and equipment. Dispose of in accordance with local regulations.

### Section 7. Handling and Storage

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Store in secure, flammable storage area away from all sources of ignition. Empty containers may be hazardous since they retain product residues.

**Safety Storage Code:** Flammable

### Section 8: Exposure Control/Personal Protection

**Engineering Controls:** A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

**Respiratory Protection:** Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn.

**Skin Protection:** Chemical resistant gloves.

**Eye Protection:** Safety glasses or goggles.

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### Section 9: Physical and Chemical Properties

**Appearance:** Clear, colorless liquid  
**Odor:** characteristic organic odor  
**Solubility in Water:** Infinite  
**Specific Gravity:** Approximately 1

**pH:** Not Available.  
**Boiling Point(°C):** N/A  
**Melting Point(°C):** N/A  
**Vapor Pressure:** Not Applicable.

### Section 10: Stability and Reactivity

**Chemical Stability:** Stable under normal conditions of use and storage.  
**Incompatibility:** Oxidizers, platinum, Sodium, Potassium Dioxide, Bromine Pentafluoride, Acetyl Bromide, Acetyl Chloride, heat, sparks, open flame.  
**Hazardous Decomposition Products:** Acid and irritating fumes, including toxic oxides of carbon, phosgene and chlorine when heated to decomposition.  
**Hazardous Polymerization:** Will not occur.

### Section 11. Toxicological Information

LD50, Oral, Rat: (Methanol) 5628 mg/kg; (Ethanol) 7060 mg/kg. Details of toxic effects not reported other than lethal dose value. LD50, Oral, Rat: (Isopropanol) 5045 mg/kg, behavioral effects noted. LC50, Inhalation, Rat: (Isopropanol) 16000 ppm/8hrs. No toxic effect noted. LD50, Oral, Rat: (Chloroform) 695 mg/kg, behavioral and respiratory effects noted; LD50, Dermal, Rabbit: >20,000 mg/kg, details of toxic effects not reported other than lethal dose value. Investigated as a tumorigen (Chloroform). LD50, Oral, Rat (Acetic Acid): 3310 mg/kg; LD50, Dermal, Rabbit (Acetic Acid): 1.06 L/kg, details of toxic effects not reported other than lethal dose value.

### Section 12. Ecological Information

**Ecotoxicological Information:** Ethanol has moderate chronic toxicity to aquatic life. Chloroform has moderate acute and chronic toxicity to aquatic life. Chloroform has caused damage to various plants, including brittle roots and chromosomal damage. Insufficient data are available to evaluate the short term and long term effects of Chloroform to plants, birds, or land animals. Acetic Acid has high biochemical oxygen demand, and a potential to cause oxygen depletion in aqueous systems, low potential to affect aquatic organisms and a low potential to affect the growth of some plant seedlings.  
**Chemical Fate Information:** This material is not expected to significantly bioaccumulate. Ethanol and Isopropanol are slightly persistent in water, with a half-life of between 2 to 20 days. Chloroform is non-persistent in the aquatic environment. Acetic Acid has low potential to bioconcentrate.

### Section 13. Disposal Considerations

Absorb with suitable inert material (vermiculite, dry sand, earth) and place in a chemical waste container for proper disposal in an approved waste disposal facility for incineration in a chemical incinerator equipped with scrubber and afterburner. Do not flush to the sewer. Ventilate area of spill. Have extinguishing agent available in case of fire. Eliminate all sources of ignition. Use non-sparking tools and equipment. Always dispose of in accordance with local, state and federal regulations.

### Section 14. Transport Information

Part Numbers: R1851000-1C, R1851000-4C, R1851000-500C

D.O.T. Shipping Name: Flammable Liquid, Toxic, n.o.s., (Ethanol and Chloroform)

D.O.T. Hazard Class: 3 (6.1)

U.N. / N.A. Number: UN1992

Packing Group: III

D.O.T. Label: 3, III



### Section 15. Regulatory Information (Not meant to be all inclusive - selected regulation represented)

**OSHA Status:** These items meet the OSHA Hazard Communication Standard (29 CFR 1910.1200) definition of a hazardous material.

**TSCA Status:** All components of this solution are listed on the TSCA Inventory or are mixtures (hydrates) of items listed on the TSCA Inventory.

Sara Title III:

**Section 302 Extremely Hazardous Substances:** Not Applicable.

**Section 311/312 Hazardous Categories:** Acute, Chronic, Fire: Yes; Pressure, Reactivity: No

**Section 313 Toxic Chemicals:** Not Applicable.

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**California:** Contains an ingredient (Chloroform (Trichloromethane)) known to the state of California to cause cancer. Contains an ingredient (Chloroform (Trichloromethane)) known to the state of California to cause cancer.

**Pennsylvania:** Chloroform (Trichloromethane) is listed as both Special and Environmental Hazards on the state's Hazardous Substances List. Ethyl Alcohol (Ethanol) is listed as a Basic Hazard on the state's Hazardous Substances List. Methanol (Methyl Alcohol) is listed as an Environmental Hazard on the state's Hazardous Substances List. Isopropyl Alcohol (Isopropanol, 2-Propanol) is listed as an Environmental Hazard on the state's Hazardous Substances List. Acetic Acid is listed as an Environmental Hazard on the state's Hazardous Substances List. Methanol (Methyl Alcohol) is listed as an Environmental Hazard on the state's Hazardous Substances List. Isopropyl Alcohol (Isopropanol, 2-Propanol) is listed as an Environmental Hazard on the state's Hazardous Substances List. Acetic Acid is listed as an Environmental Hazard on the state's Hazardous Substances List. Chloroform (Trichloromethane) is listed as both Special and Environmental Hazards on the state's Hazardous Substances List. Ethyl Alcohol (Ethanol) is listed as a Basic Hazard on the state's Hazardous Substances List.

**RCRA Status:** D022,U044,U154,D002,U154,D002,D022,U044

**CERCLA Reportable Quantity:** Chloroform (Trichloromethane) - 10 pounds. Methanol (Methyl Alcohol) - 5,000 pounds. Acetic Acid - 5,000 pounds. Methanol (Methyl Alcohol) - 5,000 pounds. Acetic Acid - 5,000 pounds. Chloroform (Trichloromethane) - 10 pounds.

**WHMIS:** B-2: Flammable and Combustible Material. Flammable Liquid. D-2A: Poisonous and Infectious Material. Materials causing other toxic effects - Very Toxic Material. D-1B Poisonous and Infectious Material. Materials causing immediate and serious toxic effects - Toxic Material.



### Section 16. Other Information

NFPA Ratings:

Health: 1                      Flammability: 3                      Reactivity: 0                      Special Notice Key:None

HMIS Ratings:

Health: 1                      Flammability: 3                      Reactivity: 0                      Protective Equipment:B (Protective Eyewear, Gloves)

Rev 1, 11-03-2005: (Section 1) added Red Bird catalog number C-290.

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.