Material Safety Data Sheet
(64130-05)

Section 1: Chemical Product and Company Identification

Product Name: Carnoy's Fixative

Catalog Number: 64130-05

CAS#: See Section 2 below

Other Names: Carnoy's Fluid

Contact Information:
Electron Microscopy Sciences
1560 Industry Road
Hatfield, PA 19440
1-215-412-8400 (phone)
1-800-523-5874 (toll-free)
1-215-412-8450 (fax)
Order Online: emsdiasum.com

CHEMTREC (24-Hour Emergency Telephone), call: 1-800-424-9300

Section 2: Composition and Information on Ingredients

Pure Substance (Proportion 100%):
Chemical Identity: Carnoy's fixative
Common Name(s):Carnoy's fluid
CAS Number: Mixture – see below

Mixture Substance:

Ingredients	CAS Number(s)	Proportion (%)
Ethyl Alcohol (Ethanol)	64-17-5	~60
Trichloromethane (Chlololform)	67-6-3	~30
Acetic acid ~10% (Acetic Acid)	64-19-7	~10

Section 3: Hazards Identification

Hazard Classification: Hazardous according to criteria of Hazardous Substances Information System [HSIS Worksafe Australia].
Hazardous and/or Dangerous Nature: HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Risk Phrases:
R10 – Flammable R11 – Highly flammable
R22 – Harmful if swallowed. R35 – Causes severe burns
R38 – Irritating to skin R40 – Limited evidence of a carcinogenic effect.
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
Safety Phrases:
S1/2 – Keep locked up and out of reach of children S7 – Keep container tightly closed.
S16 – Keep away from sources of ignition – No smoking S23 – Do not breathe fumes
S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37 – Wear suitable protective clothing and gloves.
S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Refer to Section 15 for Poisons Schedule.

Section 4: First Aid Measures

Ingestion:	If swallowed, DO NOT induce vomiting. Seek urgent medical assistance.
Inhalation:	Remove victim to fresh air. Apply resuscitation if victim is not breathing – DO NOT USE DIRECT MOUTH-TO-MOUTH METHOD if victim ingested or inhaled substance; use alternative respiratory method or proper respiratory device – Administer oxygen if breathing is difficult.
Eye Contact:	If material is splashed into eyes, flush with plenty of water for at least 15 minutes, ensuring eye Lids are held open. Immediately transport to hospital or doctor.
Skin Contact:	If material is splashed onto the skin, remove any contaminated clothing and wash skin thoroughly with water and soap if available.
First Aid Facilities:	Eyebath/eyewash, Safety shower and general washroom facilities.

Medical Attention and Special Treatment: Treat symptomatically.
Additional Information: Not available.

Section 5: Fire and Explosion Data

Suitable Extinguishing Media: Use dry chemical, carbon dioxide, foam or water spray.
Hazards from Combustion Products: Vapors from this product may travel or be moved by air currents and be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge or other ignition sources at locations distant from the point of handling.
Precautions for Fire Fighters: Self-contained breathing apparatus (SCBA) required for fire-fighting personnel. If possible to do so safely, shut off fuel to fire. Use water spray to spray to cool fire-exposed surfaces and to protect personnel. Avoid spreading burning liquid with water used for cooling fire exposed containers when using water spray; boil-over may occur when the product temperature reaches the boiling point of water.
Hazchem Code: 3WE

Section 6: Accidental Release Measures

Emergency Procedures: Keep unnecessary people away; Isolate hazard area and deny entry. Stay upwind; keep out of low areas. Isolate for 800 m in all directions if tank, rail car or tanker truck is involved in fire.
Containment and Clean-up: Shut off ignition sources, no flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Water spray may reduce vapor, but it may not prevent ignition in closed spaces.
Small Spills: Take up with sand, dirt or vermiculite. DO NOT use sawdust. Use non-sparking tools. Place into labeled drum(s) for later disposal.
Large Spills: Notify Emergency Services (Police or Fire Brigade). Tell them location, nature and any information that would be helpful. Contain spill. Remove all ignition sources and safely stop flow of spill. Bund area. Trained personnel should wear Personal Protective Equipment as highlighted in this MSDS. Blanket the spill with foam or use water fog to disperse vapor clouds. Consult an expert regarding disposal of this product.

Section 7 : Handling and Storage

Precautions for Safe Handling: Wear appropriate protective equipment – refer to Section 8. Use good work hygiene – wash after handling. Do not eat/smoke/drink around substance. Use only in a well-ventilated area.
Precautions for Safe Storage: Store in a cool place and out of direct sunlight. Store away from sources of heat or ignition, strong alkalis, acids combustibles and oxidizing agents. All equipment must be earthed. Store in original packages as approved by manufacturer. Check all fittings, valves, reticulation (piping) and any ancillary equipment for leaks. A supplied air respirator or a Self-Contained Breathing Apparatus (SCBA) for emergencies should be available and checked regularly. For further information please refer to the Engineering Controls of this MSDS.

Section 8: Exposure Controls/Personal Protection

National Exposure Standards:	Ethanol, CAS 64-17-5: (Worksafe Australia) TWA 1,000 ppm; TWA 1,880 mg/m3 Chloroform, CAS 67-66-3: (Worksafe Australia) TWA 10 ppm; TWA 49 mg/m3 Acetic acid, CAS 64-197; (Worksafe Australia) TWA 10 ppm; TWA 25 mg/m3 STEL 15 ppm; STEL37 mg/m3
Biological Limit Values:	No biological limits.
Engineering Controls:	Highly flammable and toxic liquid. Single significant exposure may cause death. Maintain adequate ventilation at all times. Prevent accumulation of gas in hollows or Sumps. Eliminate any sources of ignition. DO NOT enter room unless monitored by Another person (i.e., buddy-buddy system). Sampling of the atmosphere if possible should be conducted automatically, for example, by use of sensors, instead of human operator and any leaks discovered should then be directed digitally to a command centre where the event can be acted upon, with all appropriate procedures being implemented and including any protective equipment as outlined in this MSDS.
Personal Protective Equipment:	Clothing: PVC or rubber apron. Gloves: PVC or rubber. Eyes: Chemical goggles or face shield to protect eyes. Respiratory Protection: Avoid breathing of vapors/gases. Select and use respirators in accordance with AS/NZS 1715/1716. When gases exceed the exposure standards then the use of a half-face respirator with organic vapor cartridge is recommended. For high concentration, use an atmosphere-supplied, positive pressure demand self-contained or airline breathing apparatus, complying with the requirements of AS/NZS 1715 is recommended. Filter capacity and respirator type depends on exposure levels and type of contaminant. If entering spaces where the airborne concentration of a contaminant is unknown then the use of Self-contained breathing apparatus (SCBA) with positive pressure air supply complying with AS/NZS 1715/1716, or any other acceptable International Standard is recommended.

Section 9: Physical and Chemical Properties

Appearance:	Clear liquid	Odor:	Not available
pH:	Not available	Vapor pressure:	102hPA @20ºC
Vapor density:	Not available	Boiling point/range (ºC):	Not available
Freezing/melting point (ºC):	Not available	Solubility:	Sparingly soluble in water
Specific gravity or density:	About 1.02	Flammable (explosive)	
Ignition temperature:	Not available	Limits:	Not determined
Additional information:	Not available		

Section 10: Stability and Reactivity Data

Chemical Stability: Stable under normal conditions of use.
Conditions to Avoid: Sources of ignition/heat and incompatible materials.
Incompatible Materials: Strong alkalis, acids, nitrates and oxidizing agents.
Hazardous Decomposition Products: None known, hazardous vapors may be caused if under fire condition.
Hazardous Reactions: Will not occur.

Section 11: Toxicological Information

Exposure and Health Effects: Harmful. Prolonged and repeated skin contact may lead to dermatitis. This product may cause severe eye irritation and depending upon duration of exposure, some form of permanent eye damage may occur. Prolonged or repeated exposure may lead to irreversible damage to health. Prolonged or repeated exposure may lead to Permanent irreversible injury.
Ingestion: Harmful if swallowed. May cause irritation to mouth, throat and stomach with effects including mucous build up, irritation to the tongue and lips and pains in the stomach.
Inhalation: Harmful if inhaled. May cause irritation to the nose, throat and respiratory system with effects including: Dizziness, headache and possible confusion.
Eye Contact: Will cause irritation to the eyes, with effects including: tearing, pain, stinging and blurred vision. Depending upon duration of exposure, eye damage may occur.
Skin Contact: Harmful by skin contact. Will cause irritation to the skin, with effects including: Redness, itchiness, and possible dermatitis.
Human/Animal data: Not available
Carcinogenic Category: Group 2B: Possibly carcinogenic to humans.
Other Carcinogenic Information: Ethanol is only classed as a group 1 carcinogen if an alcohol beverage. Chloroform is classed as a group 2B carcinogen. Acetic Acid is not classed by the IARC.

Section 12: Ecological Information

Ecotoxicity:	Not available
Persistence and degradability:	Not available
Mobility:	Not available
Additional information:	Not available

Section 13: Disposal Considerations

Disposal Methods: Dispose of in accordance with Federal, State and Local regulations.
Special Precautions/Additional Informational: Not available.

Section 14: Transport Information

UN Number:	UN 1992
UN Proper Shipping Name:	Flammable liquid, toxic, n.o.s. (Carnoy's Fixative)
Class and Subsidiary Risk:	3/6.1
Packing Group:	PG II
Special Precautions for User:	Not available.
Hazchem Code:	3WE

Section 15: Other Regulatory Information

Poison Schedule Number: S6

Section 16: Other Information:

Created: October 2010 **Date Verified and Printed: February 15, 2011**

Comments:
List of publications referenced when creating this MSDS.

- Hazardous Substances Information System Consolidated Lists: Safe Work Australia.
- Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)] 3rd Edition: National Occupational Health and Safety Commission
- Dangerous Goods – Initial Emergency Response Guide (SAA/SNZ HB76:1997).
- IATA Dangerous Goods Regulations.
- Adopted National Exposure Standards for Atomospheric Contaminants in the Occupational Environment [NOHSC: 1003(1995)].
- Australia Standard for the Uniform Scheduling of Drugs and Poisons [SUSPD] (Australian Government Department of Health and Aging).

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