



Material Safety Data Sheet (MSDS)
Revision Date: 10-10-2016

Kit Name: VitroView™ Mammary Gland Wholemount Stain Kit
Catalog#: VB-3001

Components:

VB-3001-1	Carnoy's Fixative Solution
VB-3001-2	Carmin Alum Staining Solution

VB-3001-1 Carnoy's Fixative Solution MSDS

1. Identification of the Substance/Mixture and Company

Product Name Carnoy's Fixative Solution
Catalog# VB-3001-1
Product Description Kit Component
Manufacturer/Supplier VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

3. Composition/information on ingredients

Mixtures Description: Mixture of the substances listed below.

Composition:

Component	CAS#
Chloroform	67-66-3
Acetic acid	64-19-7
Ethyl Alcohol	64-17-5

4. First Aid Measures

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: CALL A PHYSICIAN.

SKIN: Remove contaminated clothing. Wash exposed area with soap and water.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

5. Firefighting Measures

Fire Extinguisher Type: Carbon Dioxide, dry chemical powder or appropriate foam
Fire / Explosion Hazards: vapors heavier than air and will stay at the floor level
Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

6. Accidental Release Measures

Evacuate area. Wear self-contained breathing apparatus and protective clothing.
Eliminate all sources of ignition.

7. Handling and Storage

Store in a cool dry well ventilated area. Keep away from heat and flame. Do not get in eyes, on skin, or on clothing.

8. Exposure Controls/Personal Protection

Respiratory Protection: NIOSH/MSHA-approved respirator
Ventilation: Mechanical
Protective Gloves: Solvent resistant gloves as neoprene or nitrile
Eye Protection: Splash Goggles
Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

9. Physical and Chemical Properties

General Information

Appearance	
Form:	Fluid
Color:	Colorless
Odor:	characteristic organic odor
Odor threshold	Not determined
pH-value	Not determined
Change in condition	
Melting point/Melting range:	Undetermined
Boiling point/Boiling range:	Undetermined
Flash point:	Not applicable.
Flammability (solid, gaseous)	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not self-igniting.
Danger of explosion:	Not determined.
Explosion limits:	
Lower	Not determined
Upper	Not determined
Vapor pressure at 20°C (68 °F)	Not determined.
Density at 20°C (68 °F):	Not determined.
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with Water:	Infinite.
Segregation coefficient (n-octanol/water)	Not determined
Dynamic:	Not determined
Kinematic:	Not determined
Other information	No further relevant information available.

10 Stability and Reactivity

Stability:	Stable
Conditions to Avoid	Avoid contact with heat, sparks, flames, or other sources of ignition.
Materials to Avoid:	Oxidizing materials
Hazardous Decomposition Products:	TOXIC gases produced at decomposition
Hazardous polymerization:	Will Not Occur
Conditions to Avoid:	None known

11. Toxicological Information

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.

12. Ecological 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 is 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.

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.

14. Transport Information

Part Numbers: R1851000-1C, R1851000-4C, R1851000-500C D.O.T. Hazard Class: 3 (6.1) U.N. / N.A. Number: UN1992 Packing Group: III D.O.T. Shipping Name: Flammable Liquid, Toxic, n.o.s., (Ethanol and Chloroform) D.O.T. Label: 3, III

15. Regulatory Information

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.

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. 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.

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

D022,U044,U154,D002,U154,D002,D022,U044 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.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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VB-3002-2 Carmine Alum Staining Solution MSDS

1. Identification of the Substance/Mixture and Company

Product Name Carmine Alum Staining Solution
Catalog# VB-3002-2
Product Description Kit Component
Manufacturer/Supplier VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Clear red liquid; no odor.

3. Composition

Mixtures Description: Mixture of the substances listed below with nonhazardous additions

Component	CAS#
Carmine	139-65-4
Aluminum potassium sulfate	7784-24-9
Water	

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.

5. Firefighting Measures

Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture Nature of decomposition products not known.

Advice for firefighters Wear self contained breathing apparatus for fire fighting if necessary.

Further information no data available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.

Environmental precautions Do not let product enter drains.

Methods and materials for containment and cleaning up Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections For disposal see section 13

7. Handling and Storage

Precautions for safe handling: Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place.

Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure Controls/Personal Protection

Engineering Measures/ General Hygiene: Local/general exhaust is recommended. Ensure eyewash and safety showers are available.

Personal Protection Equipment:

Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles.

Respiratory Protection: Normal ventilation is adequate. If exposure limit is exceeded, a full-face respirator with organic cartridge may be worn.

9. Physical and Chemical Properties

Appearance/Physical State: Clear, red Liquid

Odor: Odorless to alcohol odor

% Volatility: No Information Available

Boiling Point: Not Available

Specific Gravity: 0.91 g/mL @ 20 C

Melting Point: Not Available

Vapor Pressure: Not Available

Vapor Density: Not Available

Flash Point: Not Available

Evaporation Rate: Not available

Coefficient of water/oil distribution: Not Available

pH: No Information Available

Odor Threshold: Not Available

Flammability: No

Decomposition Temperature: No Information Available

Solubility: Soluble

Partition Coefficient n-octanol/water: Not Available

Relative Density: No Information Available

Molecular Weight: Not Available

10 Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Strong oxidizers, nitric acid, sulfuric acid, aldehydes, peroxides, halogens, acid anhydrides, alkali metals, ammonia.

Conditions to Avoid: Heat and moisture

Hazardous Decomposition Products: No information available

Hazardous Polymerization: Does not occur

Hazardous Reactions: None under normal processing.

11. Toxicology Information

LD50 orl-rat: 6730mg/kg (Carmine alum)

LC50 inhalation-rat: No Information Available

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure: No Information Available

Sensitization: No Information Available.

Mutagenic Effects: No Information Available

Reproductive Effects: No information Available

Developmental Effects (Immediate/Delayed): No Information Available

Teratogenicity: No Information Available.

Other Adverse Effects: No Information Available.

Endocrine Disruptor: Information No information available

12. Ecological Information

Ecotoxicity: No Information Available

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

13. Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Absorb with inert material and place in container for disposal.
Ventilate area of spill. Have fire extinguishing agent available in case of fire.
All chemical waste generators must determine whether a discarded chemical is classified as hazardous waste.
Comply with all local, state, and federal regulations.

14. Transport Information

DOT (US) Not dangerous goods
IMDG Not dangerous goods
IATA Not dangerous goods

15. Regulatory Information

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards No SARA Hazards

California Prop. 65 Components This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. Other Information

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