VitroVivo Biotech
Make Tissues, Cells, Genes and Molecules Visible

MATERAL SAFETY DATA SHEET (MSDS)

Kit Name: VitroView™ Xylene-free FFPE DePar & ReHydra Kit
SKU #: VB-9002

Revision Date: 09-12-2025

Components:

VB-9002-1	Deparaffinization Solution
VB-9002-2	100% Alcohol
VB-9002-3	95% Alcohol

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Deparaffinization Solution
Product number VB-9002-1
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	CAS #
Petroleum Distillates	N/A

3. Hazards Identification

Emergency Overview: Colorless liquid with a gasoline or kerosene-like odor. (Note: a mixture of paraffins (C5 to C13) that may contain a small amount of aromatic hydrocarbons.) Material will burn if ignited. Harmful if inhaled. Causes skin irritation. May cause eye and respiratory tract irritation.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Primary Routes of Exposure: Eyes, dermal, inhalation, ingestion.

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects: CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, 1 (Clear evidence; known carcinogen) by NTP.

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to skin. Repeated or prolonged exposure to the substance can produce target organs damage

Classification according to Regulation (EC) No 1272/2008 GHS08 health hazard

Muta. 1B H340 May cause genetic defects.
Carc. 1A H350 May cause cancer.
Repr. 1B H360 May damage fertility or the unborn child.

Medical Conditions Aggravated by Exposure: Persons with preexisting skin disorders or central nervous functional illnesses may be at increased risk from overexposure. Exposure to vapor may aggravate preexisting lung condition.

Signs and symptoms Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Defatting of the skin. Rash

4. First Aid Measures

IF IN EYES: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

IF SWALLOWED: Call poison control center or doctor immediately for treatment advice. Rinse mouth thoroughly. Do not induce vomiting unless told to do so by the poison control center or doctor. If vomiting occurs, keep head low so that stomach content does not get into lungs. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops Destroy or thoroughly clean contaminated shoes.

IF INHALED: Move person to fresh air. If breathing is difficult, give oxygen. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Vomiting may cause aspiration pneumonia. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

5. Fire Fighting Measures

Flash Point: >225 °F
Method: PMCC
Flammable Limits: UFL: Not available
LFL: Not available
Flammability Classification: Not available
Hazardous Products of Combustion:
carbon monoxide, carbon dioxide, oxides of nitrogen

Potential for Dust Explosion:
Vapor/air mixtures are explosive. Vapors or gases may ignite at distant ignition sources and flash back. Mists or sprays may be flammable at temperatures below the flash point. Contact with heat may generate toxic and/or flammable gases. Sealed containers may rupture or explode if exposed to heat.

Special Flammability Hazards:
Aromatic pitch at elevated temperatures may generate vapors that may ignite in the presence of air and a source of ignition. Closed containers may explode when exposed to extreme heat. On ignition it burns with reddish, luminous, and very sooty flame

Fire Fighting Media and Instructions:
regular dry chemical, carbon dioxide, regular foam, water spray

Protective Equipment:
Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing, and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

6. Accidental Release Measures

Containment Techniques: Contain the spilled material using inert solids (i.e., sand, earth, etc.) and, if hot, allow the material to cool. Collected material may then be shoveled into disposal containers.

Cleanup Procedures & Equipment: Wear protective equipment during cleanup. Remove all ignition sources. Ventilate area of spill or leak.

Evacuation Procedures: Isolate the release area and deny entry to unnecessary and unprotected personnel. Special Instructions: Avoid exposure to hot material during cleanup. Ensure thorough decontamination of the release area and cleanup personnel. Contaminated materials must be handled and managed as RCRA hazardous waste.

Special Reporting Requirements: not applicable

7. Handling and Storage

Storage Precautions: Protect containers from physical damage, sparks, and flame.

Storage Recommendations: Outside or detached storage is preferable. Maintain dry, ventilated conditions for storage. Containers should be periodically inspected.

Precautions for Unique Hazards: Not applicable

Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Avoid prolonged or repeated contact with skin or breathing of vapors. Do not smoke or eat in areas where the material is handled. Wash hands thoroughly before eating, drinking, smoking, or using the toilet. A complete soap and water shower should be taken at the end of each work day. Contaminated clothing should not be re-worn until cleaned. Launder contaminated clothing separately from other laundry before reuse.

Special Handling Equipment: Closed system handling of aromatic pitch may create excessive vapor concentrations in confined spaces, i.e., tanks, rail cars, tank trailers. Follow appropriate confined space entry procedures, including wearing protective equipment, when entering any confined space that has been in coal tar service.

Dangerous Incompatibility Reactions: Keep away from strong oxidizing agents. Incompatible Materials: acids, alkalis, oxidizing materials, reducing agents

8. Exposure Controls, Personal Protection

Exposure Limits: OSHA PEL: 0.2 mg/m3 as 8-hr TWA (coal tar pitch volatiles)

ACGIH TLV: 0.2 mg/m3 as 8-hr TWA (coal tar pitch volatiles)

Personal Protective Equipment: Use NIOSH-approved chemical cartridge respirator with organic vapor cartridges, or any supplied-air respirator as necessary for protection from coal tar distillate vapors (which may contain coal tar pitch volatiles). Wear impervious gloves (i.e., latex rubber), boots, work uniform and safety glasses or chemical goggles. Application of certain protective creams for coal tar products and sunscreens (SPF of at least 15) before and during work may be beneficial in reducing the risk of overexposure.

Respirator Caution: Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.

Ventilation: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.

Other Engineering Controls: All appropriate engineering controls should be used to minimize exposure potential.

Thermal Hazards: When handling hot distillate (i.e., taking samples), wear appropriate thermal protection equipment and use tongs as needed. Use of chemical goggles or face shields is highly recommended when handling heated material.

Additive or Synergistic Effects: Overexposure to this material causes photosensitization of the skin. See sunscreen recommendations above.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	orange to brown
Odor	Not available
Odor Threshold	Not available
pH	No information available
Melting Point/Range	Not available
Boiling Point/Range	Not available
Flash Point	Not available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	Not applicable
Lower	Not applicable
Vapor Pressure	Not available
Vapor Density	Not available
Specific Gravity	1-1.046
Partition coefficient; n-octanol/water	No data available
Stability	Stable at normal temperatures and pressure
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Chemical Stability: Stable at a temperature and pressure
Conditions to Avoid: Avoid heat, flames, sparks, and other sources of ignition. Avoid contact with incompatible materials
Incompatibilities: Acids, alkalis, oxidizing materials, reducing agents
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, oxides of nitrogen

11. Toxicological Information

Acute Oral LD50: >2000 mg/kg (male)
Species: rat (estimated)
Acute Dermal LD50: >2000 mg/kg
Species: rabbit
Acute Inhalation LC50: >5 mg/L
Species: rat
Skin/Eye Irritation: Moderate skin irritant / Substantial but temporary eye irritant
Target Organs: Skin, possibly lungs, nasal passages, bladder, thymus, liver, kidney and central nervous system.
Carcinogenicity: Classified 1 (Proven for human.) by IARC, 1 (Clear evidence; known carcinogen.) by NTP.
Teratogenicity: Available data do not show any effects.
Reproductive Effects: Decreased body weights were observed in animal studies.
Neurotoxicity: No data available.
Mutagenicity: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: skin
Additional Toxicity Information: Coal tar is a dermal sensitizer. Overexposures may lead to photosensitization of the skin.

12. Ecological Information

Ecotoxicity: Aquatic (daphnia) LC50 96 h Brachydanio rerio 7.3 mg/L [semi-static]
Environmental Fate: PAHs in aromatic pitch undergo photo-oxidation from surface water, and photo-oxidation half-lives are short. Photooxidized products of PAHs are persistent in air, water and soils and are bio-accumulative. Some PAHs on surface may partition (adsorb) into soils and sediments, and those with 4-5 fused rings may stay longer in sediments. Some of these may partition (desorbed) into water again. PAHs do not show a huge degree of migration in soils. PAHs tend to biodegrade in soils under aerobic conditions.

13. Disposal Information

Waste codes
US RCRA Hazardous Waste List: Reference
K148 Residues from coal tar distillation, including but not limited to, still bottoms

Disposal instructions
Dispose in accordance with all applicable regulations.

Waste from residues / unused products
Dispose of in accordance with local regulations. Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clarified oils (Petroleum), catalytic cracked)
UN Number 3082
Hazard class 9

Packing group III
Environmental hazards Marine pollutant Yes
Special provisions 8, 146, IB3, T4, TP1, TP29

Additional information:
Packaging exceptions 155
Packaging non bulk 203
Packaging bulk 241

UN number UN3082

Basic shipping requirements:
IATA
UN number UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clarified oils (Petroleum), catalytic cracked)
Transport hazard class(es) 9
Packing group III
Environmental hazards Yes
Labels required 9
ERG code 9L

IMDG
UN number UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clarified oils (Petroleum), catalytic cracked)
Transport hazard class(es) 9
Packing group III
Environmental hazards
Marine pollutant No
Labels required 9
EmS F-A, S-F

TDG
UN number UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clarified oils (Petroleum), catalytic cracked)
Transport hazard class 9
Packing group III
Marine pollutant No

15. Regulatory Information

Federal Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance
CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)
Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No
SARA 302 Extremely hazardous substance Not listed.
SARA 311/312 Hazardous chemical Yes

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15) Not controlled

State Regulations: California Proposition 65 – Listed because known to cause cancer **WHMIS Classification (Canada)**

WHMIS status	Controlled
WHMIS classification	D2A - Other Toxic Effects-VERY TOXIC D2B - Other Toxic Effects-TOXIC
WHMIS labeling	
Inventory status	

Country(s) or region Inventory name On inventory (yes/no)*
Canada Domestic Substances List (DSL) Yes
Canada Non-Domestic Substances List (NDSL) No
*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s)

EINECS Inventory:	Listed
HMIS (USA):	
Health Hazard:	1
Fire Hazard:	1
Reactivity:	0
National Fire Protection Association (USA):	
Health:	2
Flammability:	1
Reactivity:	0

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

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name	100% Alcohol
Product number	VB-9002-2
Product Description	Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition	CAS #
ethanol	64-17-5

3. Hazards Identification

Label Elements

Signal Word	Danger
Hazard Statements	Highly flammable liquid and vapor Causes serious eye irritation Suspected of causing cancer Suspected of damaging fertility or the unborn child May cause damage to organs May cause drowsiness or dizziness
Precautionary Statements Prevention	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Wash face, hands and any exposed skin thoroughly after handling Wear eye/face protection Do not breathe dust/fume/gas/mist/vapors/spray Do not eat, drink or smoke when using this product Keep away from heat/sparks/open flames/hot surfaces. - No smoking Keep container tightly closed Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting equipment Use only non-sparking tools Take precautionary measures against static discharge
Response	IF exposed or concerned: Get medical attention/advice
Skin	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention
Fire	In case of fire: Use CO2, dry chemical, or foam for extinction
Storage	Store locked up Store in a well-ventilated place. Keep cool
Disposal	Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)	Repeated exposure may cause skin dryness or cracking
Other hazards	Poison, may be fatal or cause blindness if swallowed. Vapor harmful. CANNOT BE MADE NON-POISONOUS. WARNING. Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/

4. First Aid Measures

General Advice If symptoms persist, call a physician.

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms and effects	
	None reasonably foreseeable. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Firefighting Measures

Fire Extinguisher Type:	Carbon Dioxide, dry chemical powder or appropriate foam
Fire / Explosion Hazards:	vapors heavier than air and wil stay at the floor leve
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-octonol/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 decompostion
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 Catagories: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.

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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

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name	95% Alcohol
Product number	VB-9002-3
Product Description	Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition	CAS #
ethanol	64-17-5

3. Hazards Identification

Label Elements

Signal Word	Danger
Hazard Statements	Highly flammable liquid and vapor Causes serious eye irritation Suspected of causing cancer Suspected of damaging fertility or the unborn child May cause damage to organs May cause drowsiness or dizziness
Precautionary Statements Prevention	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Wash face, hands and any exposed skin thoroughly after handling Wear eye/face protection Do not breathe dust/fume/gas/mist/vapors/spray Do not eat, drink or smoke when using this product Keep away from heat/sparks/open flames/hot surfaces. - No smoking Keep container tightly closed Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting equipment Use only non-sparking tools Take precautionary measures against static discharge
Response	IF exposed or concerned: Get medical attention/advice
Skin	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention
Fire	In case of fire: Use CO2, dry chemical, or foam for extinction
Storage	Store locked up Store in a well-ventilated place. Keep cool
Disposal	Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)	Repeated exposure may cause skin dryness or cracking
Other hazards	Poison, may be fatal or cause blindness if swallowed. Vapor harmful. CANNOT BE MADE NON-POISONOUS. WARNING. Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/

4. First Aid Measures

General Advice If symptoms persist, call a physician.

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms and effects	
	None reasonably foreseeable. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Firefighting Measures

Fire Extinguisher Type:	Carbon Dioxide, dry chemical powder or appropriate foam
Fire / Explosion Hazards:	vapors heavier than air and wil stay at the floor leve
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-octonol/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 decompostion
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 Catagories: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