



## Material Safety Data Sheet (MSDS)

Revision Date: 01-13-2017

**Kit Name:** VitroView™ Alcian Blue Stain Kit

**SKU #:** VB-3003

**Components:**

<b>VB-3003-1</b>	Alcian Blue Solution (pH2.5)
<b>VB-3003-2</b>	Nuclear Fast Red Solution

## VB-3003-1 Alcian Blue Solution (pH2.5) MSDS

### 1. Identification of the Substance/Mixture and Company

Product Name	Alcian Blue Solution (pH2.5)
SKU#	VB-3003 -1
Product Description	Kit Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 9605 Medical Center Dr., Suite 315, Rockville,MD 20850
Tel and Fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817; Fax: 844-248-6208

### 2. Hazards Identification

GHS – Classification  
Ozone Not applicable  
GHS Label elements, including precautionary statements  
Not dangerous  
Other information  
PRODUCT AND COMPANY IDENTIFICATION

### 3. Composition

Chemical Name	CAS-No	Weight %
Acetic acid	64-19-7	1-5
Alcian Blue 8GX	33864-99-2	1

### 4. First Aid Measures

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

**Ingestion** Do not induce vomiting. Obtain medical attention.

**Notes to Physician** Treat symptomatically.

### 5. Firefighting Measures

**Flammable properties** not flammable.

**Flash point** not determined

**Suitable extinguishing media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Explosion Data**

**Sensitivity to Mechanical Impact** none.

**Sensitivity to Static Discharge** none.

**Protective equipment and precautions for firefighters** As in any fire wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### 6. Accidental Release Measures

**Personal precautions** Ensure adequate ventilation.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Ingestion** Clean mouth with water. Drink plenty of water.

**Environmental precautions** Try to prevent the material from entering drains or water courses.

**Eye contact** immediately flushes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

**Methods for containment** Prevent further leakage or spillage if safe to do so. Notes to physician treat symptomatically.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

### 7. Handling and Storage

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Explosion Data Flash point not determined Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

### 8. Exposure Controls/Personal Protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 15 ppm STEL: 37 mg/m <sup>3</sup>
Alcian Blue 16828-11-8			TWA: 2 mg/m <sup>3</sup> (Aluminum)

### 9. Physical and Chemical Properties

**Appearance** No information available

**Odor** No information available.

**Odor Threshold** No information available

**Physical State** @20°C No information available

**pH** No information available

**Flash point** No information available Autoignition temperature No information available

**Melting point/range** No information available

**Explosion limits** No information available

**Specific Gravity** no data available solubility No information available.

**Evaporation rate** No information available

**Vapor density** no data available

VOC Content (%) 3

### 10 Stability and Reactivity

**Stability** Stable under recommended storage conditions.

**Eye/face protection** No special protective equipment required.

**Incompatible products** None known based on information supplied.

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Conditions to avoid** None known based on information supplied.

**Skin and body protection**

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

### 11. Toxicology Information

**Acute Toxicity**

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h
Alcian Blue	NA	NA	NA

**12. Ecological Information****Ecotoxicity .**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Acetic acid		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static		47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
Alcian Blue	No data available	No data available	No data available	No data available
Chemical Name	log Pow			
Acetic acid	-0.31			
Alcian Blue	No data available			

**13. Disposal Considerations****Waste Disposal Methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging**

Do not re-use empty containers.

**Chronic toxicity Ecotoxicity .** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic Corrosive Ignitable

**14. Transport Information**

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

**15. Regulatory Information**

U.S. Federal Regulations

SARA 313 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard no

Chronic Health Hazard no

Fire Hazard no

Sudden Release of Pressure Hazard no

Reactive Hazard no

Clean Water Act This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable	CWA - Toxic	CWA - Priority	CWA - Hazardous

	Quantities	Pollutants	Pollutants	Substances
Acetic acid	5000 lb			X

CERCLA This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetic acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

#### U.S. State Regulations

California Proposition 65 This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid	X	X	X		X

#### International Regulations

Chemical Name	Carcinogen Status	Exposure limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m3 Mexico: STEL 15 ppm Mexico: STEL 37 mg/m3

WHMIS Note: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

#### 16. Other Information

Full text of H-Statements referred to under sections 2 and 3 H314 - Causes severe skin burns and eye damage H226 - Flammable liquid and vapor

Revision Date 29-Jun-2016

Revision Note No information available.

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

## VB-3003-2 Nuclear Fast Red Solution MSDS

### 1. Identification of the Substance/Mixture and Company

Product Name	Nuclear Fast Red Solution
SKU#	VB-3003-2
Product Description	Kit Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 9605 Medical Center Dr., Suite 315, Rockville,MD 20850
Tel and Fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817; Fax: 844-248-6208

### 2. Hazards Identification

GHS CLASSIFICATION: Skin Irritation Category 2; Eye Irritation Category 1; Chronic Aquatic Toxicity Category 3

Hazard Phrases	
H318	Causes serious eye damage.
H315	Causes skin irritation
H411	Toxic to aquatic life with long lasting effects.

Precautionary Phrases	
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
P337+P315	If eye irritation persists: Get medical advice/attention.
P273	Avoid release to the environment.

SECTION 2 NOTES:

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Description: Mixture \*May contain additional non-hazardous proprietary ingredients. \*\*May contain additional active ingredients at concentrations

INGREDIENT: CAS NO. % WT Water 7732-18-5 80-100 Aluminum Sufate Hydrate 7784-31-8 ≤5  
Nuclear Fast Red 6409-77-4 ≤0.2 Sodium Azide 26628-22-8 ≤0.1

SECTION 3 NOTES:

### 4. First Aid Measures

EYES: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation persists.

SKIN: in case of contact, flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

INGESTION: Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. INHALATION: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms worsen.

SECTION 4 NOTES:

### 5. Firefighting Measures

FLAMMABILITY OF THE PRODUCT:

FLASH POINT: Not Available

AUTOIGNITION TEMPERATURE: Not Available NFPA HAZARD CLASSIFICATION HEALTH: 2

FLAMMABILITY: 0 REACTIVITY: 0 OTHER: HMIS HAZARD CLASSIFICATION HEALTH: 2

FLAMMABILITY: 0 REACTIVITY: 0 PROTECTION: B EXTINGUISHING MEDIA: Use dry chemical, CO2, water spray (fog) or foam. NOT SUITABLE: Do not use water jet. SPECIAL FIRE FIGHTING

PROCEDURES: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 5 NOTES:

#### **6. Accidental Release Measures**

ACCIDENTAL RELEASE MEASURES: Small spill and leak: Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Do not allow product to enter drains. Large spill and leak: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 6 NOTES:

#### **7. Handling and Storage**

HANDLING: Avoid contact with skin and eyes. Wash thoroughly after handling. Avoid breathing vapor. STORAGE: Store in accordance with local regulations. Store in a segregated and approved area. Store in a well ventilated area. Store at 2-8°C

SECTION 7 NOTES:

#### **8. Exposure Controls/Personal Protection**

ENGINEERING CONTROLS: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. RESPIRATORY PROTECTION: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. EYE PROTECTION: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: splash goggles SKIN PROTECTION: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Recommended: lab coat WORK HYGIENIC PRACTICES: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. EXPOSURE GUIDELINES: SECTION 8 NOTES: Avoid releasing large quantities into the environment.

#### **9. Physical and Chemical Properties**

APPEARANCE: Transparent, colorless ODOR: Unknown PHYSICAL STATE: Liquid. pH AS SUPPLIED: Not Available BOILING POINT: Not Available MELTING POINT: Not Available FREEZING POINT: Not Available VAPOR PRESSURE (mmHg): Not Available VAPOR DENSITY (AIR = 1): Not Available EVAPORATION RATE: Not Available SOLUBILITY IN WATER: Soluble in water MOLECULAR WEIGHT: Mixture VISCOSITY: Not established SECTION 9 NOTES:

#### **10 Stability and Reactivity**

STABILITY: Product is stable under normal conditions of use. CONDITIONS TO AVOID (STABILITY): Excessive heat, static electricity, direct sunlight. INCOMPATIBILITY (MATERIAL TO AVOID): Oxidizers, alkalis, antimony salts, arsenates, carbonates, and phosphates. HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon oxides, nitrogen oxides, oxides of silver HAZARDOUS POLYMERIZATION: No hazardous polymerization CONDITIONS TO AVOID (POLYMERIZATION): N/A



## SECTION 10 NOTES:

### 11. Toxicology Information

Acute toxicity Oral LD50 no data available Inhalation LC50 no data available Dermal LD50 no data available Other information on acute toxicity no data available Skin corrosion/irritation Irritating to skin and mucous membranes. Serious eye damage/eye irritation Seriously irritating to the eye. Respiratory or skin sensitization no data available Germ cell mutagenicity: no data available Carcinogenicity: International Agency for Research on Cancer (IARC). None of the components are listed. National Toxicology Program (NTP). None of the components are listed. Although not listed above, this stain is suspected of causing cancer. Specific target organ toxicity - single exposure (Globally Harmonized System) no data available Specific target organ toxicity - repeated exposure (Globally Harmonized System) no data available Aspiration hazard no data available Potential health effects Inhalation May cause respiratory tract irritation. Ingestion Toxic if swallowed. Skin Causes skin irritation. Eyes Causes eye irritation. Signs and Symptoms of Exposure To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated ROUTES OF ENTRY: Skin/eye contact, inhalation, and ingestion. ACUTE HEALTH HAZARDS: See above, potential health effects.

#### SECTION 11 NOTES:

### 12. Ecological Information

Toxicity: Fish: No relevant studies identified. Crustacea: No relevant studies identified. Algae/Aquatic Plants: No relevant studies identified. Other Organisms: No relevant studies identified. Persistence and degradability no data available Bioaccumulative potential no data available Mobility in soil no data available PBT and vPvB assessment no data available Other adverse effects no data available SECTION 12 NOTES:

### 13. Disposal Considerations

WASTE DISPOSAL METHOD: Unused product: dispose as a regulated hazardous waste. Spent product or spill clean up follow all provincial, local, state, and federal regulations. SECTION 13 NOTES:

### 14. Transport Information

U.S. DEPARTMENT OF TRANSPORTATION: PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver Nitrate) HAZARD CLASS: 9 ID NUMBER: UN3082 PACKING GROUP: III AIR TRANSPORTATION (IATA) PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Silver Nitrate) HAZARD CLASS: 9 ID NUMBER: UN3082 PACKING GROUP: III LABEL STATEMENTS: IMDG: PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver Nitrate) HAZARD CLASS: 9 ID NUMBER: UN3082 PACKING GROUP: III MARINE POLLUTANT: Yes EU ADR/RID: PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver Nitrate) HAZARD CLASS: 9 ID NUMBER: UN3082 PACKING GROUP: III Environmental Hazards: Yes SECTION 14 NOTES:

### 15. Regulatory Information

United States HCS Classification: Aquatic toxicity U.S. Federal regulations: United States inventory (TSCA 8b): TSCA 8(d) H and S data reporting: TSCA (Toxic Substance Control Act): All components are listed on the TSCA Inventory. SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Clean Water Act (CWA) 307 Clean Water Act (CWA) 311 Clean Air Act (CAA) 112 accidental release prevention: No products were found Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. DEA List I & II Chemicals (Precursor Chemicals): Not listed States RTK: California Prop. 65 This product does not contain any chemicals known to the State of California to cause birth defects or other reproductive harm: None CANADA WHMIS (Canada): Class D-2 Material causing other toxic effects. Canadian lists: CEPA Toxic substances: None of the components



are listed. Canadian ARET: None of the components are listed. Canadian NPRI: The following components are listed: Alberta Designated Substances: None of the components are listed. Ontario Designated Substances: None of the components are listed. Quebec Designated Substances: None of the components are listed. CEPA DSL / CEPA NDSL: All components are listed or exempted. This 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.

International regulations International lists: Australia inventory (AICS): All components are listed or exempted. China inventory (IECSC): Not determined. Japan inventory: All components are listed or exempted. Korea inventory: All components are listed or exempted. New Zealand Inventory of Chemicals (NZIoC): Not determined. Philippines inventory (PICCS): All components are listed or exempted.

## 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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