



MATERIAL SAFETY DATA SHEET (MSDS)

Kit Name: VitroView™ Toluidine Blue Stain Kit
SKU #: VB-3013

Revision Date: 01-16-2017

Composition:

VB-3013-1	Toluidine Blue Stock Solution
VB-3013-2	Sodium Chloride Solution

VB-3013-1 Toluidine Blue Stock Solution MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Toluidine Blue Stock Solution
Product Number VB-3012-1
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 9605 Medical Center Dr. Suite 315, 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#
Toluidine blue O	92-31-9
Ethanol alcohol	64-17-5
water	7732-18-5

3. Hazards Identification

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly in case of skin contact (irritant).

Potential Chronic Health Effects:

Carcinogenic Effects N/A
Mutagenic Effects N/A
Teratogenic Effects N/A
Developmental Toxicity N/A

Repeated or prolonged exposure is not known to aggravate medical condition..

4. First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact:

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Serious Skin Contact: N/A

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: N/A

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel.
Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed,

call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: N/A

5. Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: N/A

Flash Points: N/A

Flammable Limits: N/A

Products of Combustion:

These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).

Fire Hazards in Presence of Various Substances: N/A

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: N/A

Risks of explosion of the product in presence of static discharge: N/A

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: N/A

6. Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label.

Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Combustible materials should be stored away from extreme heat and away from strong oxidizing agent.

8. Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

9. Physical and Chemical Properties

Physical state and appearance	liquid
Odor	N/A
Taste	N/A.
Molecular Weight	305.83 g/mole
Color	Green. (Dark)
pH (1 % soln/water)	N/A.
Boiling Point	N/A
Melting Point	N/A
Critical Temperature	N/A
Specific Gravity	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Volatility	N/A
Odor Threshold	N/A
Water/Oil Dist. Coeff.	N/A
Ionicity (in Water)	N/A
Dispersion Properties	See solubility in water.
Solubility	Soluble in methanol. Solubility in Water: 3.82 g/100 ml.

10. Stability and Reactivity Data

Stability	The product is stable.
Conditions of Instability:	Not available.
Incompatibility with various substances	N/A
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	N/A
Special Remarks on Corrosivity	N/A
Polymerization	No

11. Toxicological Information

Routes of Entry: Inhalation. Ingestion

Toxicity to Animals: LD50: N/A LC50: N/A

Chronic Effects on Humans: Mutagenic for bacteria and/or yeast.

Other Toxic Effects on Humans:

Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: N/A

Special Remarks on Toxicity to Animals: N/A

Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin:

May cause skin irritation.

Eyes: May cause eye irritation.

Inhalation: May cause respiratory tract irritation.

Ingestion: May cause nausea, vomiting, abdominal pain, diarrhea, dyspnea (difficulty breathing), bluish tint of the skin. May cause burning on urination, and the urine to become dark blue to green depending on the concentration in the urine. There have been reports on effects of Toluidine Blue O on the blood (hemolytic anemia, leukopenia, methemoglobinemia), on behavior/central nervous system (headache, convulsions), cardiovascular system (hypertension, dysrhythmia) as well as reports of acute renal failure and hematuria (only after hemolysis). However, these effects occurred only after intravenous dosage.

12. Ecological Information

Ecotoxicity:	N/A
BOD5 and COD:	N/A
Products of Biodegradation:	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of Biodegradation:	The product itself and its products of degradation are not toxic.
Special Remarks of Biodegradation:	N/A

13. Disposal Considerations

Waste Disposal:

Check with all applicable local, regional, and national laws and regulations.

14. Transport Information

DOT Classification:	Not a DOT controlled material (United States).
Identification:	N/A
Special Provisions for Transport:	N/A

15. Other Regulatory Information

Federal and State Regulations:	TSCA 8(b) inventory: Sudan Black B		
Other Regulations:	N/A		
Other Classifications:			
WHMIS (Canada):	Not controlled under WHMIS (Canada).		
DSCL (EEC):	R36- Irritating to eyes.		
HMIS (U.S.):	Health Hazard: 1	Fire Hazard: 1	Reactivity: 0
			Personal Protection: E
National Fire Protection Association (U.S.):	Health: 1	Flammability: 1	Reactivity: 0
			Specific hazard:
Protective Equipment:			

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent.
Splash goggles.

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-3013-2 Sodium Chloride Solution MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Sodium chloride solution
Product number VB-3013-2
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 9605 Medical Center Dr. Suite 315 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#
Sodium chloride	7647-14-5
Water	7732-18-5

3. Hazards identification

Clear, colorless liquid, no odor. HMIS (0 to 4)

This material is not considered hazardous.
Target organs: None known

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) if used properly.

4. First Aid Measures

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. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration.

Notice: Always seek professional medical attention after first aid measures are provided.

5. Fire fighting Measures

Noncombustible solution. When heated to decomposition, emits acrid fumes.

Protective equipment and precautions for firefighters:

Use foam or dry chemical to extinguish fire. Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

6. Accidental release measures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Contain spill with sand or absorbent material and place in sealed bag or container for disposal. Ventilate and wash spill area after pickup is complete. See Section 13 for disposal information.

7. Handling and storage

Handling:

Use with adequate ventilation and do not breathe dust or vapor.
Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling..

Storage:

Store in General Storage Area [Green Storage] with other items with no specific storage hazards.
Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

8. Exposure Controls/Personal Protection

Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with a dust cartridge. Exposure guidelines: Sodium Chloride: OSHA PEL: N/A, ACGIH: TLV: N/A, STEL: N/A.

9. Physical and Chemical Properties

Molecular weight	58.44.
Physical State	Clear liquid
Color	Colorless
Odor	Odorless
pH	N/A
Specific Gravity	1.00 g/mL @ 20°C.
Vapor Pressure	N/A
Evaporation Rate	< 1 (Butyl acetate = 1).
Boiling Point	100°C
Solubility	Soluble in water.

10. Stability and Reactivity

Chemical stability	Stable under recommended storage conditions.
Incompatibility	Acids, Electrolysis can produce chlorine gas.
Shelf life	Fair shelf life, store in a cool, dry environment.

11. Toxicology Information

Acute Symptoms/Signs of exposure:

Eyes:	Redness, tearing, itching, burning, conjunctivitis.
Skin:	Redness, itching.
Ingestion:	Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain.
Inhalation:	Irritation of mucous membranes, coughing, wheezing, shortness of breath.

Chronic Effects:	No information found.
Sensitization:	none expected
Sodium Chloride:	
LD50 [oral, rat]; N/A;	LC50 [rat]; N/A; LD50 Dermal [rabbit]; N/A

Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

12. Ecological Information

Ecotoxicity (aquatic and terrestrial): Not considered an environmental hazard.

13. Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for sanitary sewer or trash disposal.

14. Transport Information

DOT (US) Not regulated.

15. Regulatory Information

US Federal

OSHA - Highly Hazardous None of the chemicals in this product are considered.

US State State Right to Know None of the components are on this list

16. Other Information

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