



Material Safety Data Sheet

Revision Date: 10-25-2024

Kit Name: VitroView™ Alcian Blue Hematoxylin/Orange G Stain Kit
SKU#: VB-3002

Components:

VB-3002-1	Alcian Blue Hematoxylin Solution
VB-3002-2	Eosin/Orange G Solution

VB-3002-1 Alcian Blue Hematoxylin Solution MSDS

1. Identification of the Substance/Mixture and Company

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

2. Hazards Identification

Classification of the substance or mixture

The product is not classified according to the Globally Harmonized System (GHS). **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.

Information concerning particular hazards for human and environment: The product does not have to be labeled due to the calculation procedure of international guidelines.

Classification system: The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data. **Label elements**

GHS label elements Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Classification system: NFPA ratings (scale 0 - 4)

Health = 1

Fire=0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 1

Fire = 0

Reactivity = 0

Other hazards Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

3. Composition

Chemical characterization:

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

Dangerous components: Void

4. First Aid Measures

Description of first aid measures

General information: No special measures required.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Generally the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5. Firefighting Measures

Extinguishing media

Suitable extinguishing agents: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture: No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Not required. **Environmental**

precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

7. Handling and Storage

Handling:

Precautions for safe handling: No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required

Conditions for safe storage, including any incompatibilities Storage:

Requirements to be met by storerooms and receptacles: No special requirements. **Information about storage in one common storage facility:** Not required.

Further information about storage conditions: None.

Specific end use(s): No further relevant information available.

8. Exposure Controls/Personal Protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

64-19-7 acetic acid	PEL	25 mg/m ³ , 10 ppm
	REL	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
	TLV	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material: The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling.

9. Physical and Chemical Properties

General Information	
Appearance	
Form:	Fluid
Color: Colorless	Purplr-blue
Odor:	Acidic
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:	Product is not explosive.
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:	Fully miscible.
Segregation coefficient (n-octanol/water)	Not determined
Dynamic:	Not determined
Kinematic:	Not determined
Other information	No further relevant information available.

10 Stability and Reactivity

Reactivity:

Chemical stability: No further relevant information available.

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11. Toxicology Information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

On the skin: No irritant effect.

On the eye: No irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information: The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenic categories IARC (International Agency for Research on Cancer): None of the ingredients are listed.

NTP (National Toxicology Program): None of the ingredients are listed.

12. Ecological Information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behavior in environmental systems

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Results of PBT and vPvB assessment PBT: Not applicable. **vPvB:** Not applicable.

Other adverse effects: No further relevant information available.

13. Disposal Considerations

Waste treatment methods:

Recommendation: Smaller quantities can be disposed of with household waste. Disposal must be according to official regulations.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations. **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14. Transport Information

UN proper shipping name DOT, ADR, AND, IMDG, IATA	Void
Transport hazard class DOT, ADR, IMDG, IATA	Void
Packing group DOT, ADR, IMDG, IATA	Void
Environmental hazards Marine pollutant	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
UN "Model Regulation"	-

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture SARA

Safety, health and environmental regulations/legislation specific for the substance or mixture SARA

Section 355 (extremely hazardous substances): None of the ingredients are listed.

Section 313 (Specific toxic chemical listings): None of the ingredients is listed.

TSCA (Toxic Substances Control Act): 64-19-7 acetic acid ; 517-28-2 haematoxylin ; 7681-55-2 sodium iodate ; 12040-44-7 alcian blue; 7732-18-5 water, distilled, conductivity or of similar purity

Proposition 65

Chemicals known to cause cancer: None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed.

Chemicals known to cause developmental toxicity: None of the ingredients are listed. **Carcinogenic categories EPA (Environmental Protection Agency)** None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH) None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration) None of the ingredients are listed.

GHS label elements Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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 Eosin/Orange G Solution

1. Identification of the Substance/Mixture and Company

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

2. Hazards Identification

Classification of the substance or mixture

GHS02 Flame Flam. Liq. 2 H225 Highly flammable liquid and vapor.

Label elements

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

GHS02 Signal word Danger

Hazard statements Highly flammable liquid and vapor.

Precautionary statements Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Wear protective gloves / eye protection / face protection. Ground/bond container and receiving equipment. Keep container tightly closed. Use only non-sparking tools. Take precautionary measures against static discharge.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)

Health = 1

Fire = 3

Reactivity = 0

HMS-ratings (scale 0 - 4)

Health = 1

Fire = 3

Reactivity = 0

Other hazards Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

3. Composition

Chemical characterization:

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

Dangerous components:		
CAS: 64-17-5 EINECS: 200-578-6	ethanol	50-100%
CAS: 17372-87-1 EINECS: 241-409-6	disodium 2-(2,4,5,7-tetrabromo-6-oxido-3-oxoxanthen-9-yl)benzoate	0.1-≤2.5%
CAS: 18472-87-2 EINECS: 242-355-6	2',4',5',7'-Tetrabromo-4,5,6,7-tetrachlorofluorescein disodium salt	0.01-≤0.1%
CAS: 1936-15-8 EINECS: 217-705-6	7-Hydroxy-8-phenylazo-1,3-naphthalenedisulfonic acid Wool Orange 2G	0.01-≤0.1%

5. First Aid Measures

Description of first aid measures

General information: Immediately remove any clothing soiled by the product.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Immediately rinse with water.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

Information for doctor: Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5. Firefighting Measures

Extinguishing media Suitable extinguishing agents: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture: No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.

Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13. Ensure adequate ventilation. **Reference to other sections**

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

7. Handling and Storage

Handling:

Precautions for safe handling: No special precautions are necessary if used correctly. **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke. Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities Storage: Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed. Store in cool, dry conditions in well sealed receptacles.

Specific end use(s): No further relevant information available.

8. Exposure Controls/Personal Protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

64-17-5 ethanol	PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
	REL	Long-term value: 1900 mg/m ³ , 1000 ppm
	TLV	Short-term value: 1880 mg/m ³ , 1000 ppm

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures: Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.

Breathing equipment: Not required.

Protection of hands:

Protective gloves The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material: The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed goggles

9. Physical and Chemical Properties

General Information	
Appearance	
Form:	Fluid
Color:	Reddish-orange
Odor:	Characteristic
Odor threshold	Not determined
pH-value	Not determined
Change in condition	
Melting point/Melting range:	Undetermined
Boiling point/Boiling range:	78 °C (172 °F)
Flash point:	13 °C (55 °F)
Flammability (solid, gaseous)	Not applicable
Ignition temperature:	425 °C (797 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not self igniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
Explosion limits:	
Lower	3.5 Vol %
Upper	15.0 Vol %
Vapor pressure at 20°C (68 °F)	59 hPa (44 mm Hg)
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:	Fully miscible.
Segregation coefficient (n-octanol/water)	Not determined
Dynamic:	Not determined
Kinematic:	Not determined
Other information	No further relevant information available.

10 Stability and Reactivity

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

Reactivity:

11. Toxicology Information

Information on toxicological effects Acute toxicity:

Primary irritant effect:

- On the skin: No irritant effect.
- On the eye: No irritating effect.
- Sensitization: No sensitizing effects known.

Carcinogenic categories IARC (International Agency for Research on Cancer): None of the ingredients are listed.

NTP (National Toxicology Program): None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration) None of the ingredients are listed.

12. Ecological Information

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13. Disposal Considerations

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations. **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14. Transport Information

UN proper shipping name DOT, ADR, AND, IMDG, IATA	Void
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Void
Transport hazard class DOT, ADR, IMDG, IATA	Void
Packing group DOT, ADR, IMDG, IATA	Void
Environmental hazards Marine pollutant	Not applicable.
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
UN "Model Regulation"	-

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture SARA

Safety, health and environmental regulations/legislation specific for the substance or mixture SARA

Section 355 (extremely hazardous substances): None of the ingredients are listed.

Section 313 (Specific toxic chemical listings): None of the ingredients is listed.

TSCA (Toxic Substances Control Act): All ingredients are listed.

Proposition 65

Chemicals known to cause cancer: None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed.

Chemicals known to cause developmental toxicity: 64-17-5 ethanol.

Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH) 64-17-5 ethanol

NIOSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration) None of the ingredients are listed.

GHS label elements Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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:

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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

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