



Material Safety Data Sheet

Revision Date: 08-21-2026

Kit Name: VitroView™ Alkaline Phosphatase (ALP) Stain Kit (50-100 Slides)

SKU#: VB-3048

Components:

VB-3048-1	New Fuchsin Solution
VB-3048-2	Sodium Nitrite Solution
VB-3048-3	Naphthol AS-BI Solution
VB-3048-4	ALP Buffer
VB-3048-5	Mayer's Hematoxylin Solution
VB-3048-6	ALP Inhibitor Solution

VB-3048-1 New Fuchsin Solution MSDS

1. Identification of the Substance/Mixture and Company

Product Name	New Fuchsin Solution MSDS
Catalog#	VB-3048-1
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 18
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

Label Elements

Signal Word

Danger

Hazard Statements

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
May cause cancer

Precautionary Statements

Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Skin

IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing

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

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

3. Composition/information on ingredients

Mixtures Description: Mixture of the substances listed below.

Composition:

Component	CAS#
New Fuchsin	3248-91-7

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. Get medical attention if symptoms occur.
Most important symptoms and effects	None reasonably foreseeable.
Notes to Physician.	Treat symptomatically

5. Firefighting Measures

Suitable Extinguishing Media	Water spray. Carbon dioxide (CO ₂). Dry chemical. Alcohol resistant foam
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Do not allow run-off from fire-fighting to enter drains or water courses

Hazardous Combustion Products

Nitrogen oxides (NO_x). Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride gas.

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.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	-

6. Accidental Release Measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required.
Environmental Precautions	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.
Methods for Containment and Clean Up	Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Handling	Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.
Storage	Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Oxidizing agent.

8. Exposure Controls/Personal Protection

<u>Exposure Guidelines</u>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Measures	Ensure adequate ventilation, especially in confined areas. Ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location
<u>Personal Protective Equipment</u>	
Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Physical State	Solid
Appearance	Dark green
Odor	Odorless
Odor Threshold	No information available
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available

Vapor Density	No information available
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C22H23N3.HCl
Molecular Weight	365.89

10 Stability and Reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products.
Incompatible Materials	Oxidizing agent
Hazardous Decomposition	Nitrogen oxides (NOx), Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO2), Hydrogen chloride gas
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information

Information on expected route of exposure

Inhalation	Not an expected route of exposure.
Ingestion	May be harmful if swallowed.
Eyes	Avoid contact with eyes. Irritating to eyes.
Skin	Avoid contact with skin. May cause irritation.

Toxicology data for the components

Toxicologically Synergistic Products	No information available
(b) skin corrosion/irritation;	Category 2
(c) serious eye damage/irritation;	Category 2
(d) respiratory or skin sensitization;	
Respiratory	No data available
Skin	No data available
(e) germ cell mutagenicity;	No data available
(f) carcinogenicity;	Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
New Fuchsin	3248-91-7	Group 2B	Not listed	Not listed	X	Not listed

IARC (International Agency for Research on Cancer)

IARC IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans (g) reproductive toxicity; No data available

(g) reproductive toxicity;	No data available
(h) STOP-single exposure;	Category 3

Results/ Target organs	Respiratory system
(i) STOP-repeated exposure;	No information available
Target organs	No information available
(j) Aspiration hazard;	No information available
Symptoms / effects,both acute and delayed	No information available
Endocrine Disruptor Information	No information available
Other Adverse Effects	The toxicological properties have not been fully investigated\

12. Ecological Information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Persistence and Degradability	No information available
Bioaccumulation/ Accumulation	No information available.
Mobility	No information available.

13. Disposal Considerations

Waste Disposal Methods	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
-------------------------------	---

14. Transport Information

DOT

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

TDG

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

IATA

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

IMDG/IMO

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

15. Regulatory Information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
New Fuchsin	3248-91-7	X	ACTIVE	-

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
New Fuchsin	3248-91-7	X	-	221-831-7	X	X	X	X	KE-01468

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

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

SARA 311/312 Hazard Categories Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

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.

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

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) Annex XIV - Substances Subject to Authorization	(1907/2006) Annex XVII - Restrictions on Certain Dangerous Substances	REACH REACH Regulation (EC 1907/2006) article 59 Candidate List of Substances of Very High Concern (SVHC)
New Fuchsin	3248-91-7	-	Use restricted. See entry 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

16. Other Information

This information contained herein is believed to be accurate but is not guaranteed to be so. Data and calculations are based on information furnished by the manufacturer of the product and the manufacturers of its components. 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, vendors assume 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, 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

Copyright © 2026 VitroVivo Biotech, LLC. All rights reserved. No part of these pages may be used for any purpose other than personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, for reasons other than personal use, is strictly prohibited without prior written permission.

VB-3048-2 Sodium Nitrite Solution MSDS

1. Identification of the Substance/Mixture and Company

Product Name	Sodium Nitrite Solution
Catalog#	VB-3048-2
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Oxidizing solids	Category 3
Acute oral toxicity	Category 3
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver, Blood, Cardiovascular system.	

Label Elements

Signal Word

Danger

Hazard Statements

May intensify fire; oxidizer

Toxic if swallowed

Causes serious eye irritation

May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear eye/face protection

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Keep away from clothing and other combustible materials

Take any precaution to avoid mixing with combustibles

Wear protective gloves/protective clothing/eye protection/face protection

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

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

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor

Rinse mouth

Fire

In case of fire: Use CO₂, dry chemical, or foam to extinguish

Storage

Store locked up Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

3. Composition/information on ingredients

Component	CAS No
Sodium nitrite	7632-00-0

4. First Aid Measures**Description of first aid measures**

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

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately. conditions of normal use. If you feel unwell, seek medical advice.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Notes to Physician Treat symptomatically.

Most important symptoms and effects, both acute and delayed

Not Applicable

Indication of any immediate medical attention and special treatment needed

None.

5. Firefighting Measures

Unsuitable Extinguishing Media No information available

Flash Point

No information available

Method

No information available

Autoignition Temperature

510 °C / 950 °F

Explosion Limits**Upper**

No data available

Lower

No data available

Oxidizing Properties

Oxidizer

Sensitivity to Mechanical Impact

No information available

Sensitivity to Static Discharge

No information available

Specific Hazards Arising from the Chemical

Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Nitrogen oxides (NOx). Sodium oxides.

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. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	2	OX

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Keep people away from and upwind of spill/leak.
Environmental Precautions	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained
Methods for Containment and Clean Up	Keep combustibles (wood, paper, oil, etc) away from spilled material. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Handling Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials. **Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Store under an inert atmosphere. **Incompatible Materials.** Acids. Amines. Reducing Agent. Combustible material. Strong reducing agents. Oxidizing agent.

8. Exposure Controls/Personal Protection

<u>Exposure Guidelines</u>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Measures	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
<u>Personal Protective Equipment</u>	
Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended Filter type:	Particulates filter conforming to EN 143.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety Practice

9. Physical and Chemical Properties

Physical State	Solid
Appearance	Light yellow
Odor	Odorless
Odor Threshold	No information available
pH	8-9
Melting Point/Range	271 °C / 519.8 °F
Boiling Point/Range	320 °C / 608 °F
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available

Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	510 °C / 950 °F
Decomposition Temperature	> 320 °C
Viscosity	No information available
Molecular Formula	N Na O2
Molecular Weight	69
Oxidizing Properties	Oxidizer

10 Stability and Reactivity

Reactivity	Yes
Chemical stability	Oxidizer: Contact with combustible/organic material may cause fire.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	Incompatible products. Excess heat. Combustible material. Avoid dust formation. Exposure to moist air or water.
Incompatible materials	Acids, Amines, Reducing Agent, Combustible material, Strong reducing agents, Oxidizing agent
Hazardous decomposition products	Nitrogen oxides (NOx), Sodium oxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information

Information on expected route of exposure

Inhalation	May cause irritation of respiratory tract. May be harmful if inhaled.
Ingestion	Toxic if swallowed. May cause central nervous system effects. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause methemoglobinemia. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Eyes	May cause irritation.
Skin	May cause irritation. May be harmful in contact with skin.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium nitrite	LD50 = 85 mg/kg (Rat)		LC50 = 5.5 mg/L (Rat) 4 h

Toxicologically Synergistic Products	No information available
(b) skin corrosion/irritation;	Based on available data, the classification criteria are not met
(c) serious eye damage/irritation;	Category 2
(d) respiratory or skin sensitization;	
Respiratory	Based on available data, the classification criteria are not met
Skin	Based on available data, the classification criteria are not met
(e) germ cell mutagenicity;	Based on available data, the classification criteria are not met
(f) carcinogenicity;	Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Sodium Nitrite	7632-00-0	Not listed	Not listed	Not listed	Not listed	Not listed

IARC (International Agency for Research on Cancer)
IARC IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans (g) reproductive toxicity; No data available

(g) reproductive toxicity;	No data available
(h) STOP-single exposure;	No data available
Results/ Target organs	Respiratory system
(i) STOP-repeated exposure;	No information available
Target organs	No information available
(j) Aspiration hazard;	No information available
Symptoms / effects, both acute and delayed	No information available
Endocrine Disruptor Information	No information available
Other Adverse Effects	The toxicological properties have not been fully investigated
Endocrine Disrupting Properties	This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

Ecotoxicity

Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sodium nitrite	-	Oncorhynchus mykiss: LC50 = 0.09-0.13 mg/L 96h	-	12.5-100 mg/L 48h

Persistence and Degradability	Soluble in water Persistence is unlikely based on information available.
Bioaccumulation/ Accumulation	No information available.
Mobility	Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Sodium nitrite	-3.7

13. Disposal Considerations

Waste treatment methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport Information

DOT

UN-No	UN1500
Proper Shipping Name	Sodium Nitrite
Hazard Class	5.1
Subsidiary Hazard Class	6.1
Packing Group	III

TDG

UN-No	UN1500
Proper Shipping Name	Sodium Nitrite
Hazard Class	5.1
Subsidiary Hazard Class	6.1
Packing Group	III

IATA

UN-No	UN1500
Proper Shipping Name	Sodium Nitrite
Hazard Class	5.1
Subsidiary Hazard Class	6.1
Packing Group	III

IMDG/IMO

UN-No	UN1500
Proper Shipping Name	Sodium Nitrite
Hazard Class	5.1
Subsidiary Hazard Class	6.1
Packing Group	III

15. Regulatory Information**United States of America Inventory**

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Sodium Nitrite	7632-00-0	X	ACTIVE	S

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule.

TSCA 12(b) - Notices of Export

Component	CAS-No	TSCA 12(b) - Notices of Export
Sodium Nitrite	7632-00-0	Section 5(a)(2) Section 5

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Sodium Nitrite	7632-00-0	X	-	231-555-9	X	X	X	X	KE-31546

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

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

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Sodium Nitrite	X	100 lb	-	-

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

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).

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) Annex XIV - Substances Subject to Authorization	(1907/2006) Annex XVII - Restrictions on Certain Dangerous Substances	REACH REACH Regulation (EC 1907/2006) article 59 Candidate List of Substances of Very High Concern (SVHC)
Sodium Nitrite	7632-00-0	-	Use restricted. See entry 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Sodium nitrite	7632-00-0	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium nitrite	7632-00-0	Not applicable	Not applicable	Not applicable	Not applicable

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

Copyright © 2026 VitroVivo Biotech, LLC. All rights reserved. No part of these pages may be used for any purpose other than personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, for reasons other than personal use, is strictly prohibited without prior written permission.

VB-3048-3 Naphthol AS-BI Solution MSDS

1. Identification of the Substance/Mixture and Company

Product Name	Naphthol AS-BI Solution
Catalog#	VB-3048-3
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

Label Elements

Signal Word

Danger

Hazard Statements

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

Precautionary Statements

Prevention

Prevention Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Skin

IF ON SKIN: Wash with plenty of soap and water If skin irritation occurs: Get medical advice/attention Take off contaminated clothing

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

Storage

Store in a well-ventilated place. Keep container tightly closed Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

3. Composition/information on ingredients

Component	CAS No
naphthol AS-BI phosphate disodium salt	207569-04-8

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. Get medical attention if symptoms occur.
Most important symptoms and effects	None reasonably foreseeable.
Notes to Physician	Treat symptomatically

5. Firefighting Measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Flash Point

No information available

Lower

No information available

Sensitivity to Mechanical Impact

No information available

Sensitivity to Static Discharge

No information available

Special hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors.

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.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	N/A

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental precautions

Should not be released into the environment.

Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. To maintain product quality: Keep refrigerated. Incompatible Materials. Oxidizing agent.

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.

Engineering Measures

Ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type:

Particulates filter conforming to EN 143.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State: Powder Solid

Appearance: light yellow

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: Not available.

Molecular Formula: $C_{18}H_{13}BrNNa_2O_6P \cdot xH_2O$

Molecular Weight: 496.16

10 Stability and Reactivity

Reactivity

No data available

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Incompatible products.

Incompatible materials

Oxidizing agent

Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and Vapors

Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

11. Toxicological Information

Information on expected route of exposure

Inhalation	Avoid breathing dust or spray mist. May be harmful if inhaled.
Ingestion	May be harmful if swallowed.
Eyes	May cause irritation.
Skin	May cause irritation. May be harmful in contact with skin.

Toxicology data for the components

Toxicologically Synergistic Products	No information available
(b) skin corrosion/irritation;	Category 2
(c) serious eye damage/irritation;	Category 2
(d) respiratory or skin sensitization;	
Respiratory	No information available
Skin	No information available
(e) germ cell mutagenicity;	No information available
(f) carcinogenicity;	

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
naphthol AS-BI phosphate disodium salt	207569-04-8	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity;	No data available
(h) STOP-single exposure;	Category 3
Results/ Target organs	Respiratory system
(i) STOP-repeated exposure;	No information available
Target organs	No information available
(j) Aspiration hazard;	No information available
Symptoms / effects, both acute and delayed	No information available
Endocrine Disruptor Information	No information available
Other Adverse Effects	The toxicological properties have not been fully investigated
Endocrine Disrupting Properties	This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

Ecotoxicity

Do not empty into drains.

Persistence and Degradability	No information available
Bioaccumulation/ Accumulation	No information available.
Mobility	No information available.

13. Disposal Considerations

Waste treatment methods

Product

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport Information

DOT	Not regulated
TDG	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

15. Regulatory Information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
naphthol AS-BI phosphate disodium salt	207569-04-8	X	ACTIVE	-

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA- Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
naphthol AS-BI phosphate disodium salt	207569-04-8	-	X	217-645-0	-	-	-	-	-

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

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

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

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.

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

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH Not applicable

Component	CAS No	REACH (1907/2006) Annex XIV - Substances Subject to Authorization	(1907/2006) Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 Candidate List of Substances of Very High Concern (SVHC)
naphthol AS-BI phosphate disodium salt	207569-04-8	-	-	-

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
naphthol AS-BI phosphate disodium salt	207569-04-8	Not applicable	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
naphthol AS-BI phosphate disodium salt	207569-04-8	Not applicable	Not applicable	Not applicable	Not applicable

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

Copyright © 2026 VitroVivo Biotech, LLC. All rights reserved. No part of these pages may be used for any purpose other than personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, for reasons other than personal use, is strictly prohibited without prior written permission.

1. Identification of the Substance/Mixture and Company

Product Name ALP Buffer
Catalog# VB-3048-4
Product Description Component
Manufacturer/Supplier VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Classification of the substance or mixture

Appearance: clear, colorless liquid

Caution! May cause eye, skin, and respiratory tract irritation. This is expected to be a low hazard for usual handling.

Target Organs: none

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause respiratory of the digestive. Low hazard for usual industrial handling.

Chronic: No information found.

3. Composition/information on ingredients

Mixtures Description: Mixture of the substances listed below.

Composition:

Component	CAS#
Sodium Chloride	7647-14-5
Tris, Hydrochloride	1185-53-1

4. First Aid Measures

Description of first aid measures

Inhalation	Move affected person to fresh air at once. Keep affected person warm and at rest. Get medical attention immediately.
Ingestion	Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.
Skin contact	Rinse immediately with plenty of water. Remove contaminated clothing. Get medical attention promptly if symptoms occur after washing.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically and supportively.

5. Firefighting Measures

General Information

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

6. Accidental Release Measures**General Information**

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks

Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation.

7. Handling and Storage**Handling**

Wash thoroughly after handling. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated.

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

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium Chloride	none listed	none listed	none listed
Tris, Hydrochloride	none listed	none listed	none listed

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical State: Liquid

Appearance: clear, colorless

Odor: weak odor

pH: 7.4

Vapor Pressure: Not available.
Vapor Density: >1.0
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: > 100 deg C
Freezing/Melting Point: > 0 deg C
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density: Not available.
Molecular Formula: Solution
Molecular Weight: Not available.

10 Stability and Reactivity

Chemical Stability: Stable.
Conditions to Avoid: Incompatible materials, excess heat.
Incompatibilities with Other Materials: Strong acids, strong bases.
Hazardous Decomposition Products: Carbon monoxide, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported

11. Toxicological Information

Information on toxicological effects

Toxicological effects	No information available.
Skin corrosion/irritation	
Extreme pH	
Serious eye damage/irritation	Not determined.
Germ cell mutagenicity	
Genotoxicity - in vitro	Not determined.
Genotoxicity - in vivo	Not determined.
Carcinogenicity	Not determined.
Reproductive toxicity - fertility	Not determined.
Specific target organ toxicity - single exposure	
STOT - single exposure	Not determined.
Specific target organ toxicity - repeated exposure	
STOT - repeated exposure	Not determined.
Aspiration hazard	Not determined.
General information	No specific health hazards known.
Epidemiology:	No information found

12. Ecological Information

Toxicity

Acute toxicity - fish	Not determined.
------------------------------	-----------------

Persistence and degradability

Persistence and degradability	There are no data on the degradability of this product.
--------------------------------------	---

Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	Not determined.

Mobility in soil

Mobility	The product is soluble in water.
-----------------	----------------------------------

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment No information available

Other adverse effects

Other adverse effects Not determined.

13. Disposal Considerations

Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport Information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Road transport notes Not classified.

Rail transport notes Not classified.

Sea transport notes Not classified.

Air transport notes Not classified.

UN number Not applicable.

UN proper shipping name Not applicable.

Transport hazard class(es) Not applicable.

Packing group Not applicable.

Environmental hazards

Environmentally hazardous substance/marine pollutant No.

Special precautions for user Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory Information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Guidance Workplace Exposure Limits EH40. Approved Classification and Labelling Guide (Sixth edition) L131. Safety Data Sheets for Substances and Preparations.

Chemical safety assessment No chemical safety assessment has 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

Copyright © 2022 VitroVivo Biotech, LLC. All rights reserved. No part of these pages may be used for any purpose other than personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, for reasons other than personal use, is strictly prohibited without prior written permission.

VB-3047-5 Mayer's Hematoxylin Solution MSDS

1. Identification of the Substance/Mixture and Company

Product Name Mayer's Hematoxylin Solution
Catalog# VB-3047-5
Product Description Component
Manufacturer/Supplier VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Chemical Description: An aqueous solution of ferric chloride and hydrochloric acid.

Name	CAS #.
Hematoxylin	517-28-2

3. Hazards Identification

Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Serious Eye Damage/Eye Irritation Category 2

Label Elements

Signal Word

Warning

Hazard Statements

Causes serious eye irritation

Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling Wear eye/face protection

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

Hazards not otherwise classified (HNOC)

None identified

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

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

**Most important symptoms and effects
Notes to Physician**

plenty of water. Get medical attention if symptoms occur.
None reasonably foreseeable.
Treat symptomatically

5. Fire Fighting Measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam.			
Unsuitable Extinguishing Media	No information available			
Flash Point	No information available			
Method	No information available			
Autoignition Temperature	Not applicable			
Explosion Limits				
Upper	No data available			
Lower	No data available			
Sensitivity to Mechanical Impact	No information available			
Sensitivity to Static Discharge	No information available			
Specific Hazards Arising from the Chemical	Keep product and empty container away from heat and sources of ignition.			
Hazardous Combustion Products	Carbon monoxide (CO). Carbon dioxide (CO ₂).			
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.			
NFPA	Health	Flammability	Instability	Physical hazards
	2	1	1	N/A

6. Accidental Release Measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.
Environmental Precautions	Should not be released into the environment.
Methods for Containment and Clean Up	Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Handling	Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.
Storage.	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Incompatible Materials. Strong oxidizing agents.

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.
Engineering Measures	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
Personal Protective Equipment	
Eye/face Protection	Tight sealing safety goggles.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent

Respiratory Protection

skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended Filter type:
Hygiene Measures**

Particulates filter conforming to EN 143.

Handle in accordance with good industrial hygiene and safety practice

9. Physical and Chemical Properties

Physical State:	Powder Solid
Appearance:	Beige
Odor:	Characteristic
Odor Threshold	N/A
Melting Point/Range	100 - 120 °C / 212 - 248 °F
Softening Point	No data available
Boiling Point/Range	No information available
Flash Point	No information available
Flammability (liquid)	Not applicable
Flammability (solid,gas)	No information available
Explosion Limits	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	267 °C
pH	No information available
Viscosity	Not applicable
Water Solubility	Soluble in water
Solubility in other solvents	No information available
Partition Coefficient (n-octanol/water)	
Vapor Pressure	negligible
Density / Specific Gravity	No data available
Bulk Density	No data available
Vapor Density	Not applicable
Particle characteristics	No data available
Other Information	
Molecular Formula	C16 H14 O6
Molecular Weight	302.27
Evaporation Rate	Not applicable

10. Stability and Reactivity Data

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions. Light sensitive.
Conditions to Avoid	Incompatible products. Excess heat. Avoid dust formation. Exposure to light.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO2)
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information**Information on expected route of exposure**

Inhalation	Avoid breathing dust or spray mist. May be harmful if inhaled.
Ingestion	May be harmful if swallowed.
Eyes	Avoid contact with eyes. Irritating to eyes.
Skin	Avoid contact with skin. May cause irritation.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hematoxylin	LD50 > 2000 mg/kg (Rat)	-	-

Toxicologically Synergistic Products	No information available		
(b) skin corrosion/irritation;	Based on available data, the classification criteria are not met		
Test method	OECD Test Guideline 439		
Test species	in vitro		
Observational endpoint	No skin irritation		
(c) serious eye damage/irritation;	Category 2		
Test method	OECD 405		
Test species	rabbit		
Observation end point	Irritating to eyes		
(d) respiratory or skin sensitization;			
Respiratory	No data available		
Skin	Based on available data, the classification criteria are not met		

Component	Test method	Test species	Study result
Hematoxylin	OECD Test Guideline 442D	in vitro	non-sensitising
517-28-2 (>80)			

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Hematoxylin	OECD Test Guideline 471	Bacteria	negative
517-28-2 (>80)	Bacterial Reverse Mutation Test		

(f) carcinogenicity; The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Hematoxylin 517-28-2		Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity;	No data available
(h) STOT-single exposure;	No data available
(i) STOT-repeated exposure;	No data available
Target Organs	None known.
(j) aspiration hazard;	Not applicable

Symptoms / effects,both acute and delayed	No information available.
Other Adverse Effects	The toxicological properties have not been fully investigated.
Endocrine Disrupting Properties	This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

Ecotoxicity
Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hematoxylin	EC50 > 100 mg/L (7d) Lemna minor	LC50 > 35 mg/L (96h) Oncorhynchus mykiss	Not listed	Component EC50 = 29.7 mg/L (48h) Daphnia magna

Persistence and Degradability	based on information available. May persist
Bioaccumulation/ Accumulation	No information available.
Mobility	Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Hematoxylin	0.3

13. Disposal Considerations

Waste Disposal Method:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport Information

DOT	Not regulated
TDG	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

15. Regulatory Information

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components

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

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

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

Copyright © 2026 VitroVivo Biotech, LLC. All rights reserved. No part of these pages may be used for any purpose other than personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, for reasons other than personal use, is strictly prohibited without prior written permission.

VB-3048-6 ALP Inhibitor Solution MSDS**1. Identification of the Substance/Mixture and Company**

Product Name	ALP Inhibitor Solution
Catalog#	VB-3048-6
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification**Classification**

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements

None required

Hazards not otherwise classified (HNOC)

None identified

3. Composition/information on ingredients**Mixtures Description:** Mixture of the substances listed below.**Composition:**

Component	CAS#
EDTA	60-00-4

4. First Aid Measures

Eye Contact	Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if symptoms occur.
Skin Contact	Rinse skin with water. Get medical attention if symptoms occur.
Inhalation	Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.
Ingestion	Do NOT induce vomiting. Get medical attention.
Most important symptoms and effects	No information available.
Notes to Physician	Treat symptomatically

5. Firefighting Measures

Suitable Extinguishing Media	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.
Unsuitable Extinguishing Media	No information available
Flash Point	Not applicable Method – No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available

Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products

Nitrogen oxides (NO_x).

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.

NFPA

Health 1 Flammability 0 Instability 0 Physical hazards N/A

6. Accidental Release Measures

Personal Precautions Use personal protective equipment as required. Avoid contact with skin and eyes.

Environmental Precautions Avoid release to the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed

7. Handling and Storage

Precautions for safe handling

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Storage stability

Recommended storage temperature 2 - 8 °C

Storage class (TRGS 510): 12: Non Combustible Liquids

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure Controls/Personal Protection

Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

required Body Protection protective clothing

Respiratory protection

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

9. Physical and Chemical Properties

Physical State	Liquid
Appearance	Colorless
Odor	Odorless
Odor Threshold	No information available
pH	8.0
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available

10 Stability and Reactivity**Reactivity**

No data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Violent reactions possible with: The generally known reaction partners of water.

Conditions to avoid

no information available

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

In the event of fire: see section 5

11. Toxicological Information**Information on toxicological effects****Mixture**

Acute toxicity No data available

Inhalation	No data available
Dermal	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	Mixture may cause an allergic skin reaction.
Germ cell mutagenicity	No data available
Carcinogenicity	
IARC:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
<u>Additional Information</u>	Not available

12. Ecological Information

<u>Toxicity</u>	
Mixture	No data available
<u>Persistence and degradability</u>	No data available
<u>Bioaccumulative potential</u>	No data available
<u>Mobility in soil</u>	No data available
<u>Results of PBT and vPvB assessment</u>	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
<u>Other adverse effects</u>	No data available

13. Disposal Considerations

Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport Information

DOT(US)	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods
Further information	Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components

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

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

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

Copyright © 2026 VitroVivo Biotech, LLC. All rights reserved. No part of these pages may be used for any purpose other than personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, for reasons other than personal use, is strictly prohibited without prior written permission.