



MATERIAL SAFETY DATA SHEET (MSDS)

Kit Name: VitroView™ Eosin Solution
SKU #: VB-3000L-2

Revision Date: 01-29-2026

Components:

VB-3000L-2	Eosin Solution
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VB-3000L-2 Eosin Solution (MSDS)

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Eosin Solution
Product number VB-3000L-2
Product Description Kit Component

Manufacturer/Supplier

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

2. Composition/Information on Ingredients

Composition:

Name	CAS #
Eosin Y	17372-87-1
Ethyl Alcohol	64-17-5
Water	7732-18-5

3. Hazards Identification

Classification

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

Flammable liquids Category 2
Serious Eye Damage/Eye Irritation Category 2
Specific target organ toxicity (single exposure) Category 2
Target Organs - Optic nerve, Central nervous system (CNS).

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
Causes serious eye irritation
May cause damage to organs

Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground and bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Wear protective gloves/protective clothing/eye protection/face protection
Take action to prevent static discharges
Use non-sparking tools

Response

IF exposed or concerned: Call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

Eyes

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

If eye irritation persists: Get medical advice/attention

Fire

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

Storage

Store locked up

Store in a well-ventilated place. Keep cool

Disposal

Dispose of contents/container to an approved waste disposal plant Hazards not otherwise classified (HNOC)

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

No information available

WARNING. Reproductive Harm - <https://www.p65warnings.ca.gov/>.

4. First Aid Measures

General Advice

If symptoms persist, call a physician.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Notes to Physician

Treat symptomatically

5. Firefighting Measures

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media:

Water may be ineffective. Do not use a solid water stream as it may scatter and spread fire

Flash Point

16.66 °C / 62 °F

Method

No information available

Autoignition Temperature

363 °C / 685.4 °F

Explosion Limits

Upper

19%

Lower

3.3%

Sensitivity to Mechanical Impact: No information available

Sensitivity to Static Discharge: No information available

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may travel to the source of ignition and flash back. Containers may explode when heated. Thermal decomposition can release irritating gases and vapors. Containers may explode when heated. Vapors may form explosive mixtures with air.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

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
3

Flammability
3

Instability
1

Physical hazards
N/A

6. Accidental release measures

Personal Precautions

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information

Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

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. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage.

Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Acids. Acid anhydrides. Alkali metals. Metals. Ammonia. Peroxides. Isocyanates. Strong reducing agents. Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Ethyl alcohol	STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m ³ TWA: 1000 ppm TWA: 1900 mg/m ³	IDLH: 3300 ppm REL = 1000 ppm (TWA) REL = 1900 mg/m ³ (TWA)	STEL: 1000 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment.

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:

low boiling organic solvent. Type AX. Brown. conforming to EN371. or. Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Appearance

Physical State

Liquid

Color

Orange Green

Odor

Alcohol-like

Odor Threshold

N/A

Property

Evaporation rate

>1

Flammability (liquid)	Highly flammable
Oxidizing properties	N/A
Water solubility	Miscible
Solubility in other solvents	N/A
Upper explosion limit	N/A
Lower explosion limit	N/A
Vapor Pressure	40 mmHg @ 200 °C
Vapor density	1.6
Density / Specific Gravity	0.8
Viscosity	N/A
pH value	N/A
Boiling point / boiling range °C	N/A
Melting point / melting range °C	N/A
flash point °C	16.66 °C / 62 °F
Autoignition Temperature °C	363 °C / 685.4 °F
Log Pow	-0.32
Explosive Properties	Vapors may form explosive mixtures with air

10. Stability and Reactivity

Reactivity:	N/A
Chemical stability:	Stable under recommended storage conditions. May form explosive peroxides.
Possibility of hazardous reactions:	None under normal processing
Conditions to avoid:	Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials:	Acids, Acid anhydrides, Alkali metals, Metals, Ammonia, Peroxides, Isocyanates, Strong reducing agents, Strong oxidizing agents
Hazardous decomposition products:	Carbon monoxide (CO), Carbon dioxide (CO ₂)
Hazardous Polymerization	Hazardous polymerization does not occur.
Other decomposition products	N/A

11. Toxicology Information

Information on expected route of exposure

Inhalation	Irritating to respiratory system. May be harmful if inhaled.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Eyes	Irritating to eyes.
Skin	Irritating to skin. May be harmful in contact with skin.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl alcohol	LD50 = 10470 mg/kg OECD 401 (Rat) 3450 mg/kg (Mouse)	-	LC50 = 117-125 mg/l (4h) OECD 403 (rat) 20000 ppm/10H (rat)

(a) Toxicologically Synergistic Products	No information available
(b) skin corrosion/irritation;	No data available
(c) serious eye damage/irritation;	Category 2
(d) respiratory or skin sensitization;	
Respiratory	No data available
Skin	No data available

Component	Test method	Test species	Study result
Ethyl alcohol	Mouse Ear Swelling Test (MEST)	Mouse	non-sensitising
64-17-5 (70.3)	OECD Test Guideline 429 Local Lymph Node Assay	Mouse	non-sensitising

(e) germ cell mutagenicity;	No data available
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Component	Test method	Test species	Study result
Ethyl alcohol 64-17-5 (70.3)	AMES test OECD Test Guideline 471	in vitro Bacteria	negative
	Gene cell mutation OECD Test Guideline 476	in vitro Mammalian	negative

(f) carcinogenicity;

The table below indicates whether each agency has listed any ingredient as a carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Ethyl alcohol	64-17-5	Not listed	Known	A3	Not listed	A3

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans NTP:
(National Toxicity Program) Not listed
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits – Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

(g) reproductive toxicity;

No data available

Component	Test method	Test species / Duration	Study result
Ethyl alcohol 64-17-5 (70.3)	OECD Test Guideline 416	Oral / mouse	NOAEL = 13.8 g/kg/day
	OECD Test Guideline 414	2 Generation Inhalation / Rat	NOAEC = 16000 ppm

(h) STOT-single exposure;

Results / Target organs

Category 2

Optic nerve, Central nervous system (CNS).

(i) STOT-repeated exposure;

Target Organs

No data available

No information available.

(j) aspiration hazard;

No data available

Symptoms / effects, both acute and delayed

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Other Adverse Effects

Endocrine Disrupting Properties

The toxicological properties have not been fully investigated.

This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

Ecotoxicity

Contains a substance which is: Toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ethyl alcohol	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h

Persistence and Degradability

Miscible with water Persistence is unlikely based on information available

**Bioaccumulation/ Accumulation
Mobility**

No information available.

Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Ethyl alcohol	-0.32

13. Disposal compositions**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.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Methyl alcohol - 67-56-1	U154	-

14. Transport information**DOT**

UN-No	UN1987
Proper Shipping Name	ALCOHOLS, N.O.S.
Technical Shipping Name	Contains Ethanol
Hazard Class	3
Packing Group	II

TDG

UN-No	UN1987
Proper Shipping Name	ALCOHOLS, N.O.S.
Technical Shipping Name	Contains Ethanol
Hazard Class	3
Packing Group	II

IATA

UN-No	UN1987
Proper Shipping Name	ALCOHOLS, N.O.S.
Technical Shipping Name	Contains Ethanol
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1987
Proper Shipping Name	ALCOHOLS, N.O.S.
Technical Shipping Name	Contains Ethanol
Hazard Class	3
Packing Group	II

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification Active-Inactive	TSCA - EPA Regulatory Flags
Ethyl alcohol	64-17-5	X	ACTIVE	—

Legend:

TSCA US EPA (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/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Ethyl alcohol	64-17-5	X	-	200-578-6		X	X	X	X	KE-13217

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 contains a chemical or 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

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance 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

Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage. This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Ethyl alcohol	64-17-5	Development (alcoholic beverages only) Carcinogen	-	Developmental Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethyl alcohol	X	X	X	X	X

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	REACH (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)
Ethyl alcohol	64-17-5	-	-	-

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)
Ethyl alcohol	64-17-5	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)
Ethyl alcohol	64-17-5	Not applicable	Not applicable	Not applicable	Annex I - Y42

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 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, 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 of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord European 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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