



## MATERIAL SAFETY DATA SHEET (MSDS)

Kit Name: VitroView™ Gram Stain Kit

SKU #: VB-2000 or VB-2002s

Revision Date: 07-16-2020

### Components:

VB-2000 -1 or VB-2000-1s	Gram's Crystal Violet Solution
VB-2000 -2 or VB-2000-2s	Gram's Iodine Solution
VB-2000 -3 or VB-2000-3s	Gram's Decolorizer
VB-2000 -4 or VB-2000-4s	Gram's Safranin Solution

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**SKU#** VB-2000-1 or VB-2000-1s  
**Product name** VitroView™ Gram Crystal Violet Solution  
**Contact Manufacturer**

**VitroVivo Biotech, LLC**  
405 E. Gude Drive, Suite 214  
Rockville, MD 20850  
USA

Phone: 301-500-0499  
Toll free: 1-800-260-9817  
Email: [info@vitrovivo.com](mailto:info@vitrovivo.com)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids Category 3  
Carcinogenicity Category 1B

### Label Elements

#### Signal Word

Danger

#### Hazard Statements

Flammable liquid and vapor  
May cause cancer

#### Precautionary Statements

#### Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge

#### Response

IF exposed or concerned: Get medical attention/advice

#### Skin

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

#### Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

#### 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)

Harmful to aquatic life with long lasting effects  
WARNING. Reproductive Harm - <https://www.p65warnings.ca.gov/>

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No
Ethyl alcohol	64-17-5
C.I. Basic Violet 3 (with $\geq$ 0.1% Michler's ketone)	548-62-9

### 4. FIRST AID MEASURES

General Advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
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. Get medical attention immediately if symptoms occur.
Inhalation	Move to fresh air. Get medical attention immediately if symptoms occur.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately
Most important symptoms and effects	None reasonably foreseeable.
Notes to Physician	Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	38.9 °C / 102 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	No data available
<b>Upper</b>	No data available
<b>Lower</b>	No information available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

**Hazardous Combustion Products** None known

#### 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	3
Flammability	2
Instability	0
Physical hazards	N/A

### 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment.

**Environmental Precautions** Do not flush into surface water or sanitary sewer system.

**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. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe vapors or spray mist. Do not ingest. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

**Storage** Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Phenol	TWA: 5 ppm Skin	(Vacated) TWA: 5 ppm (Vacated) TWA: 19 mg/m3 Skin TWA: 5 ppm TWA: 19 mg/m3	IDLH: 250 ppm TWA: 5 ppm TWA: 19 mg/m3 Ceiling: 15.6 ppm Ceiling: 60 mg/m3	TWA: 5 ppm
Ethyl alcohol	STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m3 TWA: 1000 ppm TWA: 1900 mg/m3	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m3	STEL: 1000 ppm
Methyl alcohol	TWA: 200 ppm STEL: 250 ppm Skin	(Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m3 (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m3 Skin TWA: 200 ppm TWA: 260 mg/m3	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m3 STEL: 250 ppm STEL: 325 mg/m3	TWA: 200 ppm STEL: 250 ppm
Isopropyl alcohol	TWA: 200 ppm STEL: 400 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 980 mg/m3 (Vacated) STEL: 500 ppm (Vacated) STEL: 1225 mg/m3 TWA: 400 ppm TWA: 980 mg/m3	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m3 STEL: 500 ppm STEL: 1225 mg/m3	TWA: 200 ppm STEL: 400 ppm

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

**Personal Protective Equipment**

Eye/face Protection Tightly fitting safety goggles.

Skin and body protection Long sleeved clothing. 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.

Hygiene Measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
<b>Appearance</b>	Purple
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No information available
<b>Flash Point</b>	38.9 °C / 102 °F
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	No information available
<b>Specific Gravity</b>	No information available
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	No information available
<b>VOC Content (%)</b>	16.9997

## 10. STABILITY AND REACTIVITY

Reactive Hazard None known, based on information available

Stability Stable under normal conditions. Conditions to Avoid Heating in air. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products None under normal use conditions

Hazardous Polymerization Hazardous polymerization does not occur. Hazardous Reactions None under normal processing

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Product Information

Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. Vapor LC50 Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl alcohol	LD50 = 7060 mg/kg ( Rat )	Not listed	20000 ppm/10H ( Rat )

C.I. Basic Violet 3 (with >/= 0.1% Michler's ketone)	LD50 = 420 mg/kg ( Rat )	Not listed	Not listed
--	--------------------------	------------	------------

Toxicologically Synergistic No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to respiratory system

Sensitization No information available

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Ethyl alcohol	64-17-5	Group 1	Known	A3	X	A3
C.I. Basic Violet 3 (with >/= 0.1% Michler's ketone)	548-62-9	Not listed				

IARC: (International Agency for Research on Cancer) IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program) 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)

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

None known

STOT - repeated exposure

None known

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity

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

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 No information available

Bioaccumulation/ Accumulation No information available.

Mobility

Component	log Pow
Ethyl alcohol	-0.32

### 13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment.

### 14. TRANSPORT INFORMATION

**DOT**

UN-No 1170  
Proper Shipping Name AQUEOUS ALCOHOL SOLUTION: NOT REGULATED BY  
CONFORMING TO 49CFR 173.150(E)  
Hazard Class 3  
Packing Group III

**TDG**

UN-No UN1170  
Proper Shipping Name ETHANOL SOLUTION  
Hazard Class 3  
Packing Group III

**IATA**

UN-No UN1170  
Proper Shipping Name ETHANOL SOLUTION  
Hazard Class 3  
Packing Group III

**IMDG/IMO**

UN-No UN1170  
Proper Shipping Name ETHANOL SOLUTION  
Hazard Class 3  
Packing Group III

### 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	-
C.I. Basic Violet 3 (with >= 0.1% Michler's ketone)	548-62-9	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)

**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
Ethyl alcohol	64-17-5	X	-	200-578-6	X	X	X	X	KE-13217
C.I. Basic Violet 3 (with >= 0.1% Michler's ketone)	548-62-9	X	-	208-953-6	X	X	X	X	KE-07006

U.S. Federal Regulations

Regulations  
SARA 313

SARA 311/312 Hazard Categories See section 2 for more information  
CWA (Clean Water Act)

Clean Air Act

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)

California Proposition 65 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)	-	Developmental Carcinogen
C.I. Basic Violet 3 (with >= 0.1% Michler's ketone)	548-62-9	Carcinogen	-	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

Security

This product does not contain any DHS chemicals. Other International Regulations

Mexico - Grade Moderate risk, Grade 2

## 16. OTHER INFORMATION

Copyright © 2020 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/PREPARATION AND THE COMPANY/UNDERTAKING

**SKU#** VB-2000-2 or VB-2000-2s  
**Product name** VitroView™ Gram Iodine Solution

### Contact Manufacturer

**VitroVivo Biotech, LLC**  
405 E. Gude Drive, Suite 214  
Rockville, MD 20850  
USA

Phone: 301-500-0499  
Toll free: 1-800-260-9817  
Email: [info@vitrovivo.com](mailto:info@vitrovivo.com)

## 2. HAZARDS IDENTIFICATION

Classification  
Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)  
Based on available data, the classification criteria are not met  
Label Elements  
None required  
Hazards not otherwise classified (HNOC)  
None identified

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight
Iodine	7553-56-2	1-3%

## 4. FIRST AID MEASURES

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. Get medical attention immediately if symptoms occur.
Inhalation	Move to fresh air. Get medical attention immediately 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. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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	Keep product and empty container away from heat and sources of ignition.
Hazardous Combustion Products	None known
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

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional ecological information
<b>Methods for Containment and Clean Up</b>	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up or vacuum up spillage and collect in suitable container for disposal. Prevent product from entering drains.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Ensure adequate ventilation
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Iodine	TWA: 0.01 ppm STEL: 0.1 ppm	Ceiling: 0.1 ppm Ceiling: 1 mg/m <sup>3</sup> (Vacated) Ceiling: 0.1 ppm (Vacated) Ceiling: 1 mg/m <sup>3</sup>	IDLH: 2 ppm Ceiling: 0.1 ppm Ceiling: 1 mg/m <sup>3</sup>	TWA: 0.01 ppm STEL: 0.1 ppm

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures None under normal use conditions.

## 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	No protective equipment is needed under normal use conditions
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Opaque
Odor	No information available
Odor Threshold	No information available
pH	Not applicable
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

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions
Conditions to Avoid	Incompatible products. Excess heat
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	None under normal use conditions
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Product Information

Oral LD50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Dermal LD50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Vapor LC50	Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Iodine	315 mg/kg ( Rat )	1425 mg/kg ( Rabbit )	4.588 mg/L 4h ( Rat )

Toxicologically Synergistic No information available

#### Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to respiratory system

Sensitization No information available

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Iodine	7553-56-2	Not listed				

Mutagenic Effects	No information available
Reproductive Effects	No information available.
Developmental Effects	No information available.
Teratogenicity	No information available.
STOT - single exposure	None known
STOT - repeated exposure	None known
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

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

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Iodine		Oncorhynchus mykiss: LC50= 1,7 mg/l/96 h	-	EC50 = 0,2 mg/l/48 h

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

### Mobility

Component	log Pow
Iodine	2.49

## 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	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
Iodine	7553-56-2	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
Iodine	7553-56-2	X		231-442-4	X		X	X	KE-21023

### U.S. Federal Regulations

SARA 313

Not applicable

SARA 311/312 Hazard Categories

See section 2 for more information

CWA (Clean Water Act)

Not applicable

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

Not applicable

California Proposition 65

This product does not contain any Proposition 65 chemicals

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

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Iodine	X	X	X		X

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

Moderate risk, Grade 2

## 16. OTHER INFORMATION

Copyright © 2020 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/PREPARATION AND THE COMPANY/UNDERTAKING

**SKU#** VB-2000-3 or VB-2000-3s  
**Product name** VitroView™ Gram Decolorizer

### Contact Manufacturer

**VitroVivo Biotech, LLC**  
405 E. Gude Drive, Suite 214  
Rockville, MD 20850  
USA

Phone: 301-500-0499  
Toll free: 1-800-260-9817  
Email: [info@vitrovivo.com](mailto:info@vitrovivo.com)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 1
Target Organs - Respiratory system, Central nervous system (CNS), Optic nerve.	

### Label Elements

#### Signal Word

Danger

### Hazard Statements

Highly flammable liquid and vapor  
Causes serious eye irritation  
May cause drowsiness or dizziness  
May cause damage to organs  
May cause respiratory irritation

### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not handle until all safety precautions have been read and understood  
Do not breathe dust/fume/gas/mist/vapors/spray  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Wear protective gloves/protective clothing/eye protection/face protection

Keep cool

**Response**

If exposed or you feel unwell: Call a POISON CENTER or doctor/physician

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

**Skin**

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

**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)**

Repeated exposure may cause skin dryness or cracking

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

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Acetone	67-64-1	50
Ethyl alcohol	64-17-5	47.5
Methyl alcohol	67-56-1	2.5

### 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	If skin irritation persists, call a physician. Wash off immediately with plenty of water for at least 15 minutes.
Inhalation	Move 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
Most important symptoms and effects	None reasonably foreseeable. . Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media    Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media

No information available

Flash Point	10 °C / 50 °F
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	13.0%
Lower	2.2%
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

### Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

### Hazardous Combustion Products

None known

### 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	0
Physical hazards	N/A

## 6. Accidental release measures

### Personal Precautions

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

### Environmental Precautions

Do not flush into surface water or sanitary sewer system.

### 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

Ensure adequate ventilation. Wear personal protective equipment. 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

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a cool, well-ventilated place. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acetone	TWA: 250 ppm STEL: 500 ppm	(Vacated) TWA: 750 ppm (Vacated) TWA: 1800 mg/m <sup>3</sup> (Vacated) STEL: 2400 mg/m <sup>3</sup> (Vacated) STEL: 1000 ppm	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m <sup>3</sup>	TWA: 500 ppm STEL: 750 ppm

		TWA: 1000 ppm TWA: 2400 mg/m3		
Ethyl alcohol	STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m3 TWA: 1000 ppm TWA: 1900 mg/m3	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m3	STEL: 1000 ppm
Methyl alcohol	TWA: 200 ppm STEL: 250 ppm Skin	(Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m3 (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m3 Skin TWA: 200 ppm TWA: 260 mg/m3	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m3 STEL: 250 ppm STEL: 325 mg/m3	TWA: 200 ppm STEL: 250 ppm

**Legend**

**ACGIH - American Conference of Governmental Industrial Hygienists**

**OSHA - Occupational Safety and Health Administration**

**NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health**

**Engineering Measures**

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

**Personal Protective Equipment**

**Eye/face Protection**

Tightly fitting safety goggles. Face-shield.

**Skin and body protection**

Long sleeved clothing

**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.

**Hygiene Measures**

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State	Liquid
Appearance	Clear
Odor	pungent
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-116 °C / -176.8 °F
Boiling Point/Range	No information available °C / °F
Flash Point	10 °C / 50 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	13.0%
Lower	2.2%
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	0.77 - 0.8 @ 25°C
Solubility	Soluble in water
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

<b>Reactive Hazard</b>	None known, based on information available.
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heating in air. Keep away from open flames, hot surfaces and sources of ignition
<b>Incompatible Materials</b>	Strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	None under normal use conditions.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity****Product Information**

Oral LD50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Dermal LD50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Vapor LC50	Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetone	5800 mg/kg ( Rat )	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)	76 mg/l, 4 h, (rat)
Ethyl alcohol	LD50 = 7060 mg/kg ( Rat )	Not listed	20000 ppm/10H ( Rat )
Methyl alcohol	Calc. ATE 60 mg/kg LD50>1187–2769mg/kg(Rat)	Calc. ATE 60 mg/kg LD50 = 17100 mg/kg ( Rabbit )	Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists) LC50 = 128.2 mg/L ( Rat ) 4 h

**Toxicologically Synergistic Products** No information available

**Products****Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** No information available

**Sensitization** No information available

**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. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Acetone	67-64-1	Not listed				
Ethyl alcohol	64-17-5	Group 1	Known	A3	X	A3
Methyl alcohol	67-56-1	Not listed				

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans  
Group 2A - Probably Carcinogenic to Humans  
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

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)

<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>STOT- single exposure</b>	Respiratory system Central nervous system (CNS) Optic nerve
<b>STOT - repeated exposure</b>	None known
<b>Aspiration hazard</b>	No information available
<b>Symptoms / effects,both acute and delayed</b>	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,tiredness, nausea and vomiting
<b>Endocrine Disruptor Information</b>	No information available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

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

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Acetone	NOEC = 430 mg/l (algae; 96 h)	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 14500 mg/L/15 min	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h
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
Methyl alcohol	Not listed	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	EC50 > 10000 mg/L 24h

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available. Mobility

Component	log Pow
Acetone	-0.24
Ethyl alcohol	-0.32
Methyl alcohol	0.74

### 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.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Acetone - 67-64-1	U002	-
Methyl alcohol - 67-56-1	U154	-

### 14. TRANSPORT INFORMATION

#### DOT

UN-No 1993  
 Proper Shipping Name FLAMMABLE LIQUID, N.O.S.  
 Proper technical name (Ethanol, Acetone)  
 Hazard Class 3  
 Packing Group II

#### TDG

UN-No 1993  
 Proper Shipping Name FLAMMABLE LIQUID, N.O.S. Hazard Class 3  
 Packing Group II

#### IATA

UN-No UN 1993  
 Proper Shipping Name FLAMMABLE LIQUID, N.O.S. Hazard Class 3  
 Packing Group II

#### IMDG/IMO

UN-No UN 1993  
 Proper Shipping Name FLAMMABLE LIQUID, N.O.S. 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
Acetone	67-64-1	X	ACTIVE	-
Ethyl alcohol	64-17-5	X	ACTIVE	-
Methyl alcohol	67-56-1	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
Acetone	67-64-1	X	-	200-662-2	X	X	X	X	KE-29367
Ethyl alcohol	64-17-5	X	-	200-578-6	X	X	X	X	KE-13217
Methyl alcohol	67-56-1	X	-	200-659-6	X	X	X	X	KE-23193

**U.S. Federal Regulations**

**SARA 313**

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Methyl alcohol	67-56-1	2.5	1.0

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act**

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Methyl alcohol	X		-

**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

Component	Hazardous Substances RQs	CERCLA EHS RQs
Acetone	5000 lb	-
Methyl alcohol	5000 lb	-

**California Proposition 65** 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)	-	Developmental Carcinogen
Methyl alcohol	67-56-1	Developmental	-	Developmental

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

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetone	X	X	X	-	X
Ethyl alcohol	X	X	X	X	X
Methyl 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 Serious risk, Grade 3

**15. OTHER INFORMATION**

Copyright © 2020 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/PREPARATION AND THE COMPANY/UNDERTAKING

**SKU#** VB-2000-4, VB-2000-4s  
**Product name** VitroView™ Gram Safranin Solution

### Contact Manufacturer

**VitroVivo Biotech, LLC**  
405 E. Gude Drive, Suite 214  
Rockville, MD 20850  
USA

Phone: 301-500-0499  
Toll free: 1-800-260-9817  
Email: [info@vitrovivo.com](mailto:info@vitrovivo.com)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)  
Flammable liquids Category 3

### Label Elements

**Signal Word** Warning

### Hazard Statements

Flammable liquid and vapor

### Precautionary Statements

#### Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting/equipment

Use only non-sparking tools

Take precautionary measures against static discharge

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

#### Skin

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

#### Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

#### Storage

Store in a well-ventilated place. Keep cool

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

None identified

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

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Cas No	Weight
Ethyl alcohol	64-17-5	>90
Methyl alcohol	67-56-1	<1.0
Isopropyl alcohol	67-63-0	<1.0

#### 4. FIRST AID MEASURES

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Most important symptoms and effects</b>	None reasonably foreseeable. Symptoms of overexposure may be eadache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

#### 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
Unsuitable Extinguishing Media	No information available
Flash Point	56.7 °C / 134.1 °F
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

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

**Hazardous Combustion Products** None known

**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**

2

**Instability**

0

**Physical hazards**

N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.
<b>Environmental Precautions</b>	Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment and Clean Up</b>	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** Ensure adequate ventilation. Wear personal protective equipment. Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.
- Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Ethyl alcohol	STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m3 TWA: 1000 ppm TWA: 1900 mg/m3	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m3	STEL: 1000 ppm
Methyl alcohol	TWA: 200 ppm STEL: 250 ppm Skin	(Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m3 (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m3 Skin TWA: 200 ppm TWA: 260 mg/m3	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m3 STEL: 250 ppm STEL: 325 mg/m3	TWA: 200 ppm STEL: 250 ppm
Isopropyl alcohol	TWA: 200 ppm STEL: 400 ppm	(Vacated) TWA: 400 ppm	IDLH: 2000 ppm TWA: 400 ppm	TWA: 200 ppm STEL: 400 ppm

		(Vacated) TWA: 980 mg/m3 (Vacated) STEL: 500 ppm (Vacated) STEL: 1225 mg/m3 TWA: 400 ppm TWA: 980 mg/m3	TWA: 980 mg/m3 STEL: 500 ppm STEL: 1225 mg/m3	
--	--	--	---	--

**Legend**

**ACGIH** - American Conference of Governmental Industrial Hygienists

**OSHA** - Occupational Safety and Health Administration

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. **NIOSH IDLH**: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Personal Protective Equipment
<b>Eye/face Protection</b>	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.
<b>Skin and body protection</b>	Long sleeved clothing.
<b>Respiratory Protection</b>	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.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

**PHYSICAL AND CHEMICAL PROPERTIES**

Physical State	Liquid
Appearance	Red
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	56.7 °C / 134.1 °F
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability or explosive limits	
Upper	Not applicable
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
VOC Content (%)	7.9998

## 10. STABILITY AND REACTIVITY

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	None under normal use conditions
Hazardous Polymerization	Hazardous polymerization does not occur
Hazardous Reactions	None under normal processing

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Product Information

**Oral LD50** Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

**Dermal LD50** Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

**Vapor LC50** Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl alcohol	LD50 = 7060 mg/kg ( Rat )	Not listed	20000 ppm/10H ( Rat )
Methyl alcohol	Calc. ATE 60 mg/kg LD50>1187–2769mg/kg(Rat)	Calc. ATE 60 mg/kg LD50 = 17100 mg/kg ( Rabbit )	Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists) LC50 = 128.2 mg/L ( Rat ) 4 h
Isopropyl alcohol	5840 mg/kg ( Rat )	13900 mg/kg ( Rat ) 12870 mg/kg ( Rabbit )	72.6 mg/L ( Rat ) 4 h

**Toxicologically Synergistic** No information available

#### Products

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Irritating to respiratory system

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Ethyl alcohol	64-17-5	Group 1	Known	A3	X	A3
Methyl alcohol	67-56-1	Not listed				
Isopropyl alcohol	67-63-0	Not listed				

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans  
Group 2A - Probably Carcinogenic to Humans  
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

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)

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

None known

STOT - repeated exposure

None known

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

## 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
Methyl alcohol	Not listed	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	EC50 > 10000 mg/L 24h
Isopropyl alcohol	EC50: > 1000 mg/L, 72h (Desmodesmus subspicatus) EC50: > 1000 mg/L, 96h (Desmodesmus subspicatus)	LC50: = 11130 mg/L, 96h static (Pimephales promelas) LC50: > 1400000 µg/L, 96h (Lepomis macrochirus) LC50: = 9640 mg/L, 96h flow-through (Pimephales promelas)	= 35390 mg/L EC50 Photobacterium phosphoreum 5 min	13299 mg/L EC50 = 48 h 9714 mg/L EC50 = 24 h

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

### Mobility

Component	log Pow
Ethyl alcohol	-0.32
Methyl alcohol	-0.74
Isopropyl alcohol	0.05

## 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.

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

**13. TRANSPORT INFORMATION**

**DOT**

UN-No	1170
Proper Shipping Name	AQUEOUS ALCOHOL SOLUTION: NOT REGULATED BY CONFORMING TO 49CFR 173.150(E)
Hazard Class	3
Packing Group	III

**TDG**

UN-No	1170
Proper Shipping Name	ETHANOL SOLUTION
Hazard Class	3
Packing Group	III

**IATA**

UN-No	1170
Proper Shipping Name	ETHANOL SOLUTION
Hazard Class	3
Packing Group	III

**IMDG/IMO**

UN-No	1170
Proper Shipping Name	ETHANOL SOLUTION
Hazard Class	3
Packing Group	III

**14. 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	-
Methyl alcohol	67-56-1	X	ACTIVE	-

Isopropyl alcohol	67-63-0	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
Ethyl alcohol	64-17-5	X	-	200-578-6	X	X	X	X	KE-13217
Methyl alcohol	67-56-1	X	-	200-659-6	X	X	X	X	KE-23193
Isopropyl alcohol	67-63-0	X	-	200-661-7	X	X	X	X	KE-29363

**U.S. Federal Regulations**

**SARA 313**

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Methyl alcohol	67-56-1	< 1.0	1.0
Isopropyl alcohol	67-63-0	< 1.0	1.0

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act**

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Methyl alcohol	X		-

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)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Methyl alcohol	5000 lb	-

California Proposition 65 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)	-	Developmental Carcinogen
Methyl alcohol	67-56-1	Developmental	-	Developmental

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethyl alcohol	X	X	X	X	X
Methyl alcohol	X	X	X	X	X
Isopropyl alcohol	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 Moderate risk, Grade 2

## 15. OTHER INFORMATION

Copyright © 2016 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.