



## Kit Summary

**ProductCode(s)** VB-3023  
**Productname** MovatPentachrome Stain Kit (Modified Russell-Movat)

### Biebrich Scarlet/Acid Fuchsin Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Biebrich scarlet	-	4196-99-0	1	Eye Irrit. 2 (H319) STOT SE 3(H335) Skin Irrit. 2(H315)	-
Acetic acid	200-580-7	64-19-7	1	Skin Corr. 1A (H314) Flam Liq. 3 (H226)	-
Acid Fuchsin	221-816-5	3244-88-0	0.1	STOT SE 3(H335) Skin Irrit. 2 (H315) Eye Irrit. 2(H319)	-

### Acetic Acid Solution (1%)

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Acetic acid	200-580-7	64-19-7	1	Skin Corr. 1A (H314) Flam Liq. 3 (H226)	-

### Ferric Chloride Solution (10%)

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Ferric chloride hexahydrate	-	10025-77-1	10	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Aquatic Chronic 3 (H412)	-

### Ferric Chloride (2%) Differentiating Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Ferric chloride hexahydrate	-	10025-77-1	2	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Aquatic Chronic 3 (H412)	-

### Acetic Acid Solution (3%)

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Acetic acid	200-580-7	64-19-7	3	Skin Corr. 1A (H314) Flam Liq. 3 (H226)	-

### Alcian Blue Solution, pH 2.5

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Acetic acid	200-580-7	64-19-7	3	Skin Corr. 1A (H314) Flam Liq. 3 (H226)	-
Alcian Blue	-	75881-23-1	1	-	-

### Hematoxylin Solution (5%)

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Ethanol	200-578-6	64-17-5	90	Flam. Liq. 2 (H225)	-
Isopropanol	200-661-7	67-63-0	5	STOT SE 3 (H336) Eye Irrit. 2 (H319) Flam Liq. 2 (H225)	-
Haematoxylin	-	517-28-2	5	Eye Irrit. 2 (H319)	-

### Lugol's Iodine Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Potassium Iodide	231-659-4	7681-11-0	4	STOT RE 1 (H372)	-
Iodine	231-442-4	7553-56-2	2	Acute Tox. 4 (H312) Acute Tox. 4 (H332) Aquatic Acute 1 (H400)	-

### Phosphotungstic Acid Solution (5%)

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Phosphotungstic acid hydrate	-	12501-23-4	5	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Aquatic Chronic 2 (H411)	-

### Metanil Yellow Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Acetic acid	200-580-7	64-19-7	0.2	Skin Corr. 1A (H314) Flam Liq. 3 (H226)	-

### GHS / CLP - GHS - Classification



**Signal Word**  
Danger

## Hazard statements

H225 - Highly flammable liquid and vapor

H319 - Causes serious eye irritation

H314 - Causes severe skin burns and eye damage

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H373 - May cause damage to organs through prolonged or repeated exposure

## Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/ eye protection/ face protection

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P363 - Wash contaminated clothing before reuse

P272 - Contaminated work clothing should not be allowed out of the workplace

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P370 + P378 - In case of fire: Use foam for extinction

P310 - Immediately call a POISON CENTER or doctor/ physician

P403 + P235 - Store in a well-ventilated place. Keep cool

P233 - Keep container tightly closed

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

## 2.3 Other information

A safety datasheet follows for all potentially hazardous components – all other components are non-hazardous.

## TRANSPORT INFORMATION

<b><u>DOT</u></b>	LimitedQuantity
<b>Proper shipping name</b>	Chemical kit
<b>Hazard class</b>	9
<b>UN/IDNo</b>	UN3316
<b>Packinggroup</b>	II

<b><u>IATA</u></b>	LimitedQuantity
<b>UN/IDNo</b>	UN3316
<b>Proper shipping name</b>	Chemical kit
<b>Hazardclass</b>	9
<b>Packinggroup</b>	II

<b><u>ADR</u></b>	LimitedQuantity
<b>Proper shipping name</b>	Chemical Kit
<b>Hazardclass</b>	9
<b>UN/IDNo</b>	UN3316
<b>Packinggroup</b>	II



# VitroVivo Biotech

Make Tissues, Cells, Genes and Molecules Visible

## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Biebrich Scarlet/Acid Fuchsin Solution

**Recommended use** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### **GHS - Classification**

Ozone

Not applicable

#### **GHS Label elements, including precautionary statements**

Not dangerous

#### **Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/ protective clothing

#### **Other information**

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Biebrich scarlet	4196-99-0	1-5	Eye Irrit. 2 (H319) STOT SE 3(H335) Skin Irrit. 2(H315)
Acetic acid	64-19-7	1-5	Skin Corr. 1A (H314) Flam Liq. 3 (H226)
Acid Fuchsin	3244-88-0	0.1-1	STOT SE 3(H335) Skin Irrit. 2 (H315) Eye Irrit. 2(H319)

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skincontact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to freshair.
<b>Ingestion</b>	Clean mouth with water. Drink plenty ofwater.
<b>Notesto physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammableproperties</b>	Not flammable.
<b>Flashpoint</b>	not determined
<b>Suitableextinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b><u>Explosion Data</u></b>	
<b>Sensitivity toMechanical Impact</b>	None.
<b>Sensitivity toStatic Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions**                      Ensure adequate ventilation.
- Environmental precautions**            Try to prevent the material from entering drains or water courses.
- Methods for containment**                Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up**                 Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

- Advice on safe handling**                 Handle in accordance with good industrial hygiene and safety practice.
- Technical measures/Storage conditions**    Keep containers tightly closed in a dry, cool and well-ventilated place.

**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.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	STEL: 15ppm TWA: 10ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25mg/m <sup>3</sup> STEL: 15 ppm STEL: 37mg/m <sup>3</sup>

**Engineering measures**                      Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

- Eye/face protection**                      Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).
- Skin and body protection**                Long sleeved clothing. Protective gloves.
- Respiratory protection**                    If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures**                         Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	Liquid
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available		
<b>Explosion limits</b>	No information available		
<b>Specific Gravity</b>	No data available	<b>solubility</b>	No information available.
<b>Evaporation rate</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Vapor density</b>	No data available	<b>VOC Content (%)</b>	1

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h

### Chronic toxicity

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Acetic acid		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static		47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
<b>Chemical Name</b>			<b>log Pow</b>	
Acetic acid			-0.31	

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** Dispose of in accordance with federal, state, and local regulations.

**Contaminated packaging** Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic Corrosive Ignitable

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerousgoods

**ADR** Not dangerousgoods

**15. REGULATORY INFORMATION**

**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**

<b>AcuteHealth Hazard</b>	no
<b>ChronicHealth Hazard</b>	no
<b>FireHazard</b>	no
<b>Sudden Release ofPressure Hazard</b>	no
<b>ReactiveHazard</b>	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid	5000 lb			X

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetic acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. StateRegulations**

**California Proposition65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 37 mg/m <sup>3</sup>

**WHMISNote:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.



**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H319 - Causes serious eye irritation H335 - May cause respiratory irritation H315 - Causes skin irritation H314 - Causes severe skin burns and eye damage H226 - Flammable liquid and vapor

**RevisionDate** 05-March-2021  
**RevisionNote** No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Acetic Acid Solution (1%)

**Recommendeduse** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Ozone	Not applicable
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#### GHS Label elements, including precautionary statements

Not dangerous

#### **Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/ protective clothing

#### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Acetic acid	64-19-7	1-5	Skin Corr. 1A (H314) Flam Liq. 3 (H226)

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 4. FIRST AID MEASURES

<b>Eyecontact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to freshair.
<b>Ingestion</b>	Clean mouth with water. Drink plenty ofwater.
<b>Notesto physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammableproperties</b>	Not flammable.
<b>Flashpoint</b>	not determined
<b>Suitableextinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b><u>Explosion Data</u></b>	
<b>Sensitivity toMechanical Impact</b>	None.
<b>Sensitivity toStatic Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personalprecautions</b>	Ensure adequate ventilation.
<b>Environmentalprecautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methodsfor containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods forcleaning up</b>	Pick up and transfer to properly labeled containers.

#### 7. HANDLING AND STORAGE

<b>Advice onsafe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

**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.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	STEL: 15ppm TWA: 10ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25mg/m <sup>3</sup> STEL: 15 ppm STEL: 37mg/m <sup>3</sup>

**Engineering measures** Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

**Eye/face protection** Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection** Long sleeved clothing. Protective gloves.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	Liquid
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOCC content(%)</b>	1
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h

### Chronic toxicity

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Acetic acid		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static		47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
<b>Chemical Name</b>			<b>log Pow</b>	
Acetic acid			-0.31	

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** Dispose of in accordance with federal, state, and local regulations.

**Contaminated packaging** Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic Corrosive Ignitable

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

## 15. REGULATORY INFORMATION

### 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**

AcuteHealth Hazard	no
ChronicHealth Hazard	no
FireHazard	no
Sudden Release ofPressure Hazard	no
ReactiveHazard	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid	5000 lb			X

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetic acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. StateRegulations**

**California Proposition65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 37 mg/m <sup>3</sup>

**WHMISNote:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H226 - Flammable liquid and vapor H314 - Causes severe skin burns and eye damage

**RevisionDate** 05-March-2021  
**RevisionNote** No information available.

**Disclaimer**

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**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Ferric Chloride Solution (10%)

**UN/IDNo** UN2582

**Recommendeduse** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

#### GHS Label elements, including precautionary statements



#### Signal Word

Danger

#### Hazard statements

H314 - Causes severe skin burns and eye damage



**Precautionary Statements - EU (§28, 1272/2008)**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/ eye protection/ face protection

P363 - Wash contaminated clothing before reuse

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/ physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Ferric chloride hexahydrate	10025-77-1	7-13	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Aquatic Chronic 3 (H412)

**For the full text of the H-Statements mentioned in this Section, see Section 16****4. FIRST AID MEASURES**

<b>General advice</b>	If symptoms persist, call a physician. Immediate medical attention is required.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
<b>Inhalation</b>	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.
<b>Ingestion</b>	Rinse mouth. If symptoms persist, call a physician. Do NOT induce vomiting. Immediate medical attention is required.
<b>Notes to physician</b>	Treat symptomatically.
<b>Protection of first-aiders</b>	Use personal protective equipment. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**5. FIRE-FIGHTING MEASURES****Flammable properties** Not flammable.

<b>Flashpoint</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Ensure adequate ventilation. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.
<b>Technical measures/Storage conditions</b>	Keep container tightly closed. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering measures</b>	Showers Eyewash stations Ventilation systems
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Tightly fitting safety goggles. Face-shield.
<b>Skin and body protection</b>	Long sleeved clothing. Protective gloves.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>PhysicalState@20°C</b>	Liquid
<b>pH</b>	No information available		
<b>Flash point</b>	No information available	<b>Autoignitiontemperature</b>	No information available
<b>Decompositiontemperature</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Meltingpoint/range</b>	No information available		
		<b>Flammability Limits in Air</b>	No information available
<b>Explosionlimits</b>	No information available		
		<b>solubility</b>	No informationavailable.
<b>Specific Gravity</b>	No data available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Evaporationrate</b>	No information available	<b>VOCContent(%)</b>	Not applicable
<b>Vapordensity</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storageconditions.
<b>Incompatibleproducts</b>	None known based on information supplied.
<b>Conditionsto avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on informationsupplied.
<b>Hazardouspolymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

<b>ProductInformation</b>	Corrosive to skin, eyes and/or respiratory tract.
<b>Eyecontact</b>	Causes burns Corrosive to eyes
<b>Skincontact</b>	Corrosive Causes burns

### Chronic toxicity

<b>Chronicity</b>	Avoid repeated exposure
<b>TargetOrgan Effects</b>	None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

**13. DISPOSAL CONSIDERATIONS**

**Wastedisposal methods** Dispose of in accordance with federal, state, and local regulations.

**Contaminatedpackaging** Do not re-use empty containers.

**14. TRANSPORT INFORMATION**

**DOT** Limited Quantity

**Proper shipping name** Ferric chloride solution

**Hazard class** 8

**UN/IDNo** UN2582

**Packing group** III

**IATA** Limited Quantity

**UN/IDNo** UN2582

**Proper shipping name** Ferric chloride solution

**Hazard class** 8

**Packing group** III

**ADR** Limited Quantity

**Proper shipping name** Ferric chloride solution

**Hazard class** 8

**UN/IDNo** UN2582

**Packing group** III

**15. REGULATORY INFORMATION**

**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**

<b>AcuteHealth Hazard</b>	yes
<b>ChronicHealth Hazard</b>	no
<b>FireHazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>ReactiveHazard</b>	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**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.

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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**U.S. State Right-to-Know Regulations****International Regulations****WHMISNote:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed H314 - Causes severe skin burns and eye damage H412 - Harmful to aquatic life with long lasting effects

**Hazard statements**

H314 - Causes severe skin burns and eye damage

**RevisionDate** 05-March-2021

**RevisionNote** No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2020

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Ferric Chloride (2%) Differentiating Solution

**Recommended use** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

#### GHS Label elements, including precautionary statements



#### Signal Word

Warning

#### Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

#### Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/ eye protection/ face protection

P362 - Take off contaminated clothing and wash before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Ferric chloride hexahydrate	10025-77-1	1-5	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Aquatic Chronic 3 (H412)

**For the full text of the H-Statements mentioned in this Section, see Section 16**

**4. FIRST AID MEASURES**

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician.
<b>Ingestion</b>	Rinse mouth. If symptoms persist, call a physician.
<b>Notes to physician</b>	Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

<b>Flammable properties</b>	Not flammable.
<b>Flashpoint</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions</b>	Ensure adequate ventilation.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering measures</b>	Showers Eyewash stations Ventilation systems
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).
<b>Skin and body protection</b>	Long sleeved clothing. Protective gloves.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	Liquid
<b>pH</b>	No information available		
<b>Flash point</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Melting point/range</b>	No information available		
		<b>Flammability Limits in Air</b>	No information available
<b>Explosion limits</b>	No information available		
		<b>solubility</b>	No information available.
<b>Specific Gravity</b>	No data available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Evaporation rate</b>	No information available	<b>VOCC content(%)</b>	Not applicable
<b>Vapor density</b>	No data available		



**10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

<b>Product Information</b>	Irritating to skin, eyes and / or respiratory tract.
<b>Eye contact</b>	May cause irritation
<b>Skin contact</b>	May cause irritation

**Chronic toxicity**

<b>Target Organ Effects</b>	None known.
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**12. ECOLOGICAL INFORMATION****Ecotoxicity**

The environmental impact of this product has not been fully investigated.

**13. DISPOSAL CONSIDERATIONS**

<b>Waste disposal methods</b>	Dispose of in accordance with federal, state, and local regulations.
<b>Contaminated packaging</b>	Do not re-use empty containers.

**14. TRANSPORT INFORMATION**

<b><u>DOT</u></b>	Not dangerous goods
<b><u>IATA</u></b>	Not dangerous goods
<b><u>ADR</u></b>	Not dangerous goods

**15. REGULATORY INFORMATION****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**

Acute Health Hazard	yes
ChronicHealth Hazard	no
FireHazard	no
Sudden Release ofPressure Hazard	no
ReactiveHazard	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**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.

**U.S. StateRegulations****California Proposition65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations****International Regulations****WHMISNote:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage H302 - Harmful if swallowed H412 - Harmful to aquatic life with long lasting effects

**Hazard statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

**Revision Date**

05-March-2021

**RevisionNote**

No information available.

**Disclaimer**

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**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Acetic Acid Solution (3%)

**Recommendeduse** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Ozone	Not applicable
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#### GHS Label elements, including precautionary statements

Not dangerous

#### Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/ protective clothing

#### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Acetic acid	64-19-7	1-5	Skin Corr. 1A (H314) Flam Liq. 3 (H226)

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 4. FIRST AID MEASURES

<b>Eyecontact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to freshair.
<b>Ingestion</b>	Clean mouth with water. Drink plenty ofwater.
<b>Notesto physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammableproperties</b>	Not flammable.
<b>Flashpoint</b>	not determined
<b>Suitableextinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b><u>Explosion Data</u></b>	
<b>Sensitivity toMechanical Impact</b>	None.
<b>Sensitivity toStatic Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personalprecautions</b>	Ensure adequate ventilation.
<b>Environmentalprecautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methodsfor containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods forcleaning up</b>	Pick up and transfer to properly labeled containers.

#### 7. HANDLING AND STORAGE

<b>Advice onsafe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

**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.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	STEL: 15ppm TWA: 10ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25mg/m <sup>3</sup> STEL: 15 ppm STEL: 37mg/m <sup>3</sup>

**Engineering measures** Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

**Eye/face protection** Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection** Long sleeved clothing. Protective gloves.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	Liquid
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOCC content(%)</b>	3
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h

### Chronic toxicity

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Acetic acid		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static		47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
<b>Chemical Name</b>			<b>log Pow</b>	
Acetic acid			-0.31	

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** Dispose of in accordance with federal, state, and local regulations.

**Contaminated packaging** Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic Corrosive Ignitable

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

## 15. REGULATORY INFORMATION

### 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

AcuteHealth Hazard	no
ChronicHealth Hazard	no
FireHazard	no
Sudden Release ofPressure Hazard	no
ReactiveHazard	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid	5000 lb			X

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetic acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. StateRegulations**

**California Proposition65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 37 mg/m <sup>3</sup>

**WHMISNote:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage H226 - Flammable liquid and vapor

**RevisionDate**

05-March-2021

**RevisionNote**

No information available.

**Disclaimer**

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**End of MSDS**





## Safety DataSheet

Issuing date Nodata available

Revision Date 01-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Alcian Blue Solution, pH 2.5

**Recommendeduse** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Ozone	Not applicable
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#### GHS Label elements, including precautionary statements

Not dangerous

#### **Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/ protective clothing

#### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Acetic acid	64-19-7	1-5	Skin Corr. 1A (H314) Flam Liq. 3 (H226)
Alcian Blue	75881-23-1	1-5	-

**For the full text of the H-Statements mentioned in this Section, see Section 16.**

#### 4. FIRST AID MEASURES

<b>Eyecontact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to freshair.
<b>Ingestion</b>	Clean mouth with water. Drink plenty ofwater.
<b>Notesto physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammableproperties</b>	Not flammable.
<b>Flashpoint</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b><u>Explosion Data</u></b>	
<b>Sensitivity toMechanical Impact</b>	None.
<b>Sensitivity toStatic Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personalprecautions</b>	Ensure adequate ventilation.
<b>Environmentalprecautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methodsfor containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods forcleaning up</b>	Pick up and transfer to properly labeled containers.

#### 7. HANDLING AND STORAGE

<b>Advice onsafe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

**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.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	STEL: 15ppm TWA: 10ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25mg/m <sup>3</sup> STEL: 15 ppm STEL: 37mg/m <sup>3</sup>

**Engineering measures** Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

**Eye/face protection** Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection** Long sleeved clothing. Protective gloves.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	Liquid
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOCC content(%)</b>	3
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h

### Chronic toxicity

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Acetic acid		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static		47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
<b>Chemical Name</b>			<b>log Pow</b>	
Acetic acid			-0.31	

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** Dispose of in accordance with federal, state, and local regulations.

**Contaminated packaging** Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic Corrosive Ignitable

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

## 15. REGULATORY INFORMATION

### 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**

AcuteHealth Hazard	no
ChronicHealth Hazard	no
FireHazard	no
Sudden Release of Pressure Hazard	no
ReactiveHazard	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid	5000 lb			X

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetic acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 37 mg/m <sup>3</sup>

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage H226 - Flammable liquid and vapor

**RevisionDate**

05-March-2021

**RevisionNote**

No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Hematoxylin Solution (5%)

**UN/IDNo** UN1170

**Recommendeduse** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Serious eye damage/eye irritation	Category 2
Flammable liquids	Category 2

#### GHS Label elements, including precautionary statements



#### Signal Word

Danger

#### Hazard statements

H225 - Highly flammable liquid and vapor

H319 - Causes serious eye irritation

**Precautionary Statements - EU (§28, 1272/2008)**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/ eye protection/ face protection

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P370 + P378 - In case of fire: Use foam for extinction

P403 + P235 - Store in a well-ventilated place. Keep cool

P233 - Keep container tightly closed

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Ethanol	64-17-5	85-90	Flam. Liq. 2 (H225)
Isopropanol	67-63-0	3-7	STOT SE 3(H336) Eye Irrit. 2 (H319) Flam Liq. 2(H225)
Haematoxylin	517-28-2	3-7	Eye Irrit. 2 (H319)

**For the full text of the H-Statements mentioned in this Section, see Section 16**

**4. FIRST AID MEASURES**

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician.
<b>Ingestion</b>	Rinse mouth. If symptoms persist, call a physician.
<b>Notes to physician</b>	Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Flammable properties** Not flammable.



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<b>Flashpoint</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Ensure adequate ventilation. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.
<b>Technical measures/Storage conditions</b>	Keep container tightly closed. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

**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.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
Isopropanol 67-63-0	STEL: 400ppm TWA: 200ppm	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m <sup>3</sup> (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 980mg/m <sup>3</sup> STEL: 500ppm STEL: 1225 mg/m <sup>3</sup>

NIOSH IDLH: Immediately Dangerous to Life or Health

**Engineering measures** Showers  
Eyewashstations  
Ventilation systems

**Personal protective equipment**

**Eye/face protection** Tightly fitting safety goggles. Face-shield.  
**Skin and body protection** Long sleeved clothing. Protective gloves.  
**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures** When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	Liquid
<b>pH</b>	No information available		
<b>Flash point</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Melting point/range</b>	No information available		
		<b>Flammability Limits in Air</b>	No information available
<b>Explosion limits</b>	No information available		
<b>Specific Gravity</b>	No data available	<b>solubility</b>	No information available.
<b>Evaporation rate</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Vapour density</b>	No data available	<b>VOC Content (%)</b>	95.199998092651

**10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Irritating to skin, eyes and / or respiratory tract.

**Eyecontact** May cause irritation

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol	7060 mg/kg ( Rat )		124.7 mg/L ( Rat ) 4 h
Isopropanol	4396 mg/kg ( Rat )	12800 mg/kg ( Rat ) 12870 mg/kg ( Rabbit )	72.6 mg/L ( Rat ) 4 h

### Chronic toxicity

**Chronic toxicity** Avoid repeated exposure May cause adverse liver effects Contains a known or suspected reproductive toxin

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol	A3		Known	X
Isopropanol		Group1 Group3		X

**ACGIH: (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

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

Group 1 - Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**NTP: (National Toxicity Program)**

Known - Known Carcinogen

**OSHA: (Occupational Safety & Health Administration)**

X - Present

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Ethanol		12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephalespromelas mg/L LC50 static 13400 - 15100: 96 h Pimephalespromelas mg/L LC50 flow-through		9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static
Isopropanol	1000: 96 h Desmodesmus subspicatus mg/L EC50 1000: 72 h Desmodesmus subspicatus mg/L EC50	9640: 96 h Pimephalespromelas mg/L LC50 flow-through 11130: 96 h Pimephalespromelas mg/L LC50 static 1400000: 96 h Lepomis macrochirus µg/L LC50		13299: 48 h Daphnia magna mg/L EC50
<b>Chemical Name</b>		<b>log Pow</b>		
Ethanol		-0.32		
Isopropanol		0.05		

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** Dispose of in accordance with federal, state, and local regulations.

**Contaminated packaging** Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Ethanol	Toxic Ignitable
Isopropanol	Toxic Ignitable

**14. TRANSPORT INFORMATION**

**DOT** Limited Quantity  
**Proper shipping name** Ethanol solution  
**Hazard class** 3  
**UN/ID No** UN1170  
**Packing group** II

**IATA** Limited Quantity  
**UN/IDNo** UN1170  
**Proper shipping name** Ethanol solution  
**Hazard class** 3  
**Packing group** II

**ADR** Limited Quantity  
**Proper shipping name** Ethanol solution  
**Hazard class** 3  
**UN/IDNo** UN1170  
**Packing group** II

**15. REGULATORY INFORMATION**

**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:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Isopropanol	67-63-0	4.7	1.0

**SARA 311/312 Hazard Categories**

**Acute Health Hazard** yes  
**Chronic Health Hazard** no  
**Fire Hazard** no  
**Sudden Release of Pressure Hazard** no  
**Reactive Hazard** no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**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.

**U.S. State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Ethanol	64-17-5	Carcinogen Developmental

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethanol	X	X	X		X
Isopropanol	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Ethanol		Mexico: TWA 1000 ppm Mexico: TWA 1900 mg/m <sup>3</sup>
Isopropanol		Mexico: TWA 400 ppm Mexico: TWA 980 mg/m <sup>3</sup> Mexico: STEL 500 ppm Mexico: STEL 1225 mg/m <sup>3</sup>

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H225 - Highly flammable liquid and vapor H319 - Causes serious eye irritation H336 - May cause drowsiness or dizziness

**Hazard statements**

H225 - Highly flammable liquid and vapor

H319 - Causes serious eye irritation

**Revision Date**

05-March-2021

**Revision Note**

No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Lugol's Iodine Solution

**Recommended use** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Specific target organ systemic toxicity (repeated exposure)

Category 2

#### GHS Label elements, including precautionary statements



#### Signal Word

Warning

#### Hazard statements

H373 - May cause damage to organs through prolonged or repeated exposure

#### Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P314 - Get medical advice/ attention if you feel unwell

P501 - Dispose of contents/ container to an approved waste disposal plant

#### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Potassium Iodide	7681-11-0	1-5	STOT RE 1 (H372)
Iodine	7553-56-2	1-5	Acute Tox. 4 (H312) Acute Tox. 4 (H332) Aquatic Acute 1 (H400)

**For the full text of the H-Statements mentioned in this Section, see Section 16**

### 4. FIRST AID MEASURES

<b>Eyecontact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15minutes.
<b>Skincontact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to freshair.
<b>Ingestion</b>	Clean mouth with water. Drink plenty ofwater.
<b>Notesto physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammableproperties</b>	Not flammable.
<b>Flashpoint</b>	not determined
<b>Suitableextinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b><u>Explosion Data</u></b>	
<b>Sensitivity toMechanical Impact</b>	None.
<b>Sensitivity toStatic Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions**                      Ensure adequate ventilation.
- Environmental precautions**            Try to prevent the material from entering drains or water courses.
- Methods for containment**                Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up**                Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

- Advice on safe handling**                Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product.
- Technical measures/Storage conditions**    Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**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.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium Iodide 7681-11-0	TWA: 0.01 ppm inhalable fraction and vapor		
Iodine 7553-56-2	STEL: 0.1 ppm aerosol and vapor TWA: 0.01 ppm inhalable fraction and vapor	(vacated) Ceiling: 0.1 ppm (vacated) Ceiling: 1 mg/m <sup>3</sup> Ceiling: 0.1ppm Ceiling: 1mg/m <sup>3</sup>	IDLH: 2 ppm Ceiling: 0.1ppm Ceiling: 1mg/m <sup>3</sup>

*NIOSH IDLH: Immediately Dangerous to Life or Health*

**Other Exposure Guidelines**                Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Engineering measures**                      Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

- Eye/face protection**                      Tightly fitting safety goggles.
- Skin and body protection**                Long sleeved clothing. Protective gloves.
- Respiratory protection**                    If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures**                            Handle in accordance with good industrial hygiene and safety practice.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>PhysicalState@20°C</b>	Liquid
<b>pH</b>	No information available		
<b>Flash point</b>	No information available	<b>Autoignitiontemperature</b>	No information available
<b>Decompositiontemperature</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Melting point/range</b>	No information available		
		<b>Flammability Limits in Air</b>	No information available
<b>Explosion limits</b>	No information available		
		<b>solubility</b>	No information available.
<b>SpecificGravity</b>	No data available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Evaporationrate</b>	No information available	<b>VOCContent(%)</b>	Not applicable
<b>Vapordensity</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storageconditions.
<b>Incompatibleproducts</b>	None known based on information supplied.
<b>Conditionsto avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on informationsupplied.
<b>Hazardouspolymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**ProductInformation** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Iodine	14 g/kg ( Rat )		

### Chronic toxicity

**TargetOrgan Effects** Thyroid.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

## 13. DISPOSAL CONSIDERATIONS

<b>Wastedisposal methods</b>	Dispose of in accordance with federal, state, and local regulations.
<b>Contaminatedpackaging</b>	Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

**DOT** Not dangerousgoods

**IATA** Not dangerousgoods

**ADR** Not dangerousgoods

**15. REGULATORY INFORMATION**

**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**

<b>AcuteHealth Hazard</b>	no
<b>ChronicHealth Hazard</b>	yes
<b>FireHazard</b>	no
<b>Sudden Release ofPressure Hazard</b>	no
<b>ReactiveHazard</b>	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**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.

**U.S. StateRegulations**

**California Proposition65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Iodine	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Iodine		Mexico: Ceiling 0.1 ppm Mexico: Ceiling 1 mg/m <sup>3</sup>

**WHMISNote:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H312 - Harmful in contact with skin H332 - Harmful if inhaled H400 - Very toxic to aquatic life H372 - Causes damage to organs through prolonged or repeated exposure

**Hazard statements**

H373 - May cause damage to organs through prolonged or repeated exposure

**RevisionDate** 05-March-2021

**RevisionNote** No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-Aug-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Phosphotungstic Acid Solution (5%)

**UN/IDNo** UN3264

**Recommendeduse** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

#### GHS Label elements, including precautionary statements



#### Signal Word

Danger

#### Hazard statements

H314 - Causes severe skin burns and eye damage

**Precautionary Statements - EU (§28, 1272/2008)**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/ eye protection/ face protection

P264 - Wash face, hands and any exposed skin thoroughly after handling

P363 - Wash contaminated clothing before reuse

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/ physician

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Phosphotungstic acid hydrate	12501-23-4	3-7	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Aquatic Chronic 2 (H411)

**For the full text of the H-Statements mentioned in this Section, see Section 16****4. FIRST AID MEASURES**

<b>General advice</b>	Immediate medical attention is required.
<b>Eyecontact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
<b>Skincontact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
<b>Inhalation</b>	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required.
<b>Notesto physician</b>	Treat symptomatically.
<b>Protectionof first-aiders</b>	Use personal protective equipment. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**5. FIRE-FIGHTING MEASURES****Flammableproperties** Not flammable.

<b>Flashpoint</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	Wear self contained breathing apparatus for fire fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Ensure adequate ventilation. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.
<b>Technical measures/Storage conditions</b>	Keep container tightly closed. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering measures</b>	Showers Eyewash stations Ventilation systems
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Tightly fitting safety goggles. Face-shield.
<b>Skin and body protection</b>	Long sleeved clothing. Protective gloves.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>PhysicalState@20°C</b>	Liquid
<b>pH</b>	No information available		
<b>Flash point</b>	No information available	<b>Autoignitiontemperature</b>	No information available
<b>Decompositiontemperature</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Meltingpoint/range</b>	No information available		
		<b>Flammability Limits in Air</b>	No information available
<b>Explosionlimits</b>	No information available		
		<b>solubility</b>	No informationavailable.
<b>Specific Gravity</b>	No data available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Evaporationrate</b>	No information available	<b>VOCContent(%)</b>	Not applicable
<b>Vapordensity</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storageconditions.
<b>Incompatibleproducts</b>	None known based on information supplied.
<b>Conditionsto avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on informationsupplied.
<b>Hazardouspolymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

<b>ProductInformation</b>	Corrosive to skin, eyes and/or respiratory tract.
<b>Eyecontact</b>	Causes burns Corrosive to eyes
<b>Skincontact</b>	Corrosive Causes burns

### Chronic toxicity

<b>Chronicitytoxicity</b>	Avoid repeated exposure
<b>TargetOrgan Effects</b>	None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

### 13. DISPOSAL CONSIDERATIONS

<b>Wastedisposal methods</b>	Dispose of in accordance with federal, state, and local regulations.
<b>Contaminatedpackaging</b>	Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

<b>DOT</b>	Limited Quantity
<b>Proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s (Phosphotungstic acid hydrate)
<b>Hazard class</b>	8
<b>UN/IDNo</b>	UN3264
<b>Packinggroup</b>	II

<b>IATA</b>	Limited Quantity
<b>UN/IDNo</b>	UN3264
<b>Proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s (Phosphotungstic acid hydrate)
<b>Hazard class</b>	8
<b>Packinggroup</b>	II

<b>ADR</b>	Limited Quantity
<b>Proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s (Phosphotungstic acid hydrate)
<b>Hazardclass</b>	8
<b>UN/IDNo</b>	UN3264
<b>Packinggroup</b>	II

### 15. REGULATORY INFORMATION

#### 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

<b>AcuteHealth Hazard</b>	yes
<b>ChronicHealth Hazard</b>	no
<b>FireHazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>ReactiveHazard</b>	no

##### Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

##### 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.

#### U.S. State Regulations

##### California Proposition 65

This product does not contain any Proposition 65 chemicals.



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**U.S. State Right-to-Know Regulations****International Regulations****WHMISNote:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage H302 - Harmful if swallowed H411 - Toxic to aquatic life with long lasting effects

**Hazard statements**

H314 - Causes severe skin burns and eye damage

**RevisionDate** 05-March-2021

**RevisionNote** No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of MSDS**



## Safety DataSheet

Issuing date Nodata available

Revision Date 02-April-2021

Version 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Productname** Metanil Yellow Solution

**Recommendeduse** For research use only

**Shipping Address:** 405 E. Gude Dr., Suite 214, Rockville, MD 20850

**Billing Address:** P.O. Box 83644, Gaithersburg, MD 20883

**Phone:** 800-260-9817 (Toll Free), 301-500-0499

**Fax:** 844-248-6208

**Email:** info@vitrovivo.com

### 2. HAZARDS IDENTIFICATION

#### GHS - Classification

Skin sensitization

Category 1

#### GHS Label elements, including precautionary statements



#### Signal Word

Warning

#### Hazard statements

H317 - May cause an allergic skin reaction

#### Precautionary Statements - EU (§28, 1272/2008)

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray

P272 - Contaminated work clothing should not be allowed out of the workplace

P280 - Wear protective gloves/ eye protection/ face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention

P363 - Wash contaminated clothing before reuse

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
ACID YELLOW 36	587-98-4	1-5	Skin Sens. 1 (H317) Repr. 2 (H361) Aquatic Chronic 2 (H411)
Acetic acid	64-19-7	0.1-1	Skin Corr. 1A (H314) Flam Liq. 3 (H226)

**For the full text of the H-Statements mentioned in this Section, see Section 16**

**4. FIRST AID MEASURES**

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Note to physician</b>	Treat symptomatically. May cause sensitization of susceptible persons.

**5. FIRE-FIGHTING MEASURES**

<b>Flammable properties</b>	Not flammable.
<b>Flashpoint</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Specific hazards arising from the chemical</b>	Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.

**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 to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** Use personal protective equipment. Avoid contact with the skin and the eyes.

**Environmental precautions** Try to prevent the material from entering drains or water courses.

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

**7. HANDLING AND STORAGE**

**Advice on safe handling** Ensure adequate ventilation. Wear personal protective equipment.

**Technical measures/Storage conditions** Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.

**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.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	STEL: 15ppm TWA: 10ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25mg/m <sup>3</sup> STEL: 15 ppm STEL: 37mg/m <sup>3</sup>

**Engineering measures** Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

**Eye/face protection** Tightly fitting safety goggles.

**Skin and body protection** Long sleeved clothing. Protective gloves.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures** When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>PhysicalState@20°C</b>	Liquid
<b>pH</b>	No information available		
<b>Flash point</b>	No information available	<b>Autoignitiontemperature</b>	No information available
<b>Decompositiontemperature</b>	No information available	<b>Boiling point/boiling range</b>	No informationavailable
<b>Meltingpoint/range</b>	No information available		
		<b>Flammability Limits in Air</b>	No informationavailable
<b>Explosionlimits</b>	No information available		
		<b>solubility</b>	No information available.
<b>SpecificGravity</b>	No data available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Evaporationrate</b>	No information available	<b>VOCContent(%)</b>	0.200000002980232
<b>Vapordensity</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storageconditions.
<b>Incompatibleproducts</b>	None known based on information supplied.
<b>Conditionsto avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on informationsupplied.
<b>Hazardouspolymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**ProductInformation** May cause sensitization of susceptible persons

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h

### Chronic toxicity

<b>Chronicity</b>	Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure
<b>Sensitization</b>	As a precaution the product should be treated as asensitizer.
<b>TargetOrgan Effects</b>	None known.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Acetic acid		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static		47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
<b>Chemical Name</b>		<b>log Pow</b>		
Acetic acid		-0.31		

**13. DISPOSAL CONSIDERATIONS**

**Wastedisposal methods** Dispose of in accordance with federal, state, and local regulations.

**Contaminatedpackaging** Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic Corrosive Ignitable

**14. TRANSPORT INFORMATION**

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

**15. REGULATORY INFORMATION**

**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**

<b>AcuteHealth Hazard</b>	yes
<b>ChronicHealth Hazard</b>	no
<b>FireHazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>ReactiveHazard</b>	no

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid	5000 lb			X

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetic acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 37 mg/m <sup>3</sup>

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H317 - May cause an allergic skin reaction H361 - Suspected of damaging fertility or the unborn child H411 - Toxic to aquatic life with long lasting effects H314 - Causes severe skin burns and eye damage H226 - Flammable liquid and vapor

**Hazard statements**

H317 - May cause an allergic skin reaction

**Revision Date** 05-March-2021

**Revision Note** No information available.

**Disclaimer**

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**End of MSDS**