



Kit Summary

Product Code(s) VB-3026
Product name Jones Stain Kit (Basement Membrane)

VB-3026-1 Periodic acid solution

Chemical Name	EC-No	CAS-No	Weight%	Classification (Reg. 1272/2008)	REACH Registration Number
Periodic acid	233-937-0	10450-60-9		STOTRE 1 (H372) Skin Corr. 1B (H314)Eye Dam. 1 (H318) Aquatic Acute 1(H400) Ox. Sol. 1 (H271)	-

VB-3026-2 Methenamine Solution

Chemical Name	EC-No	CAS-No	Weight%	Classification(Reg. 1272/2008)	REACH Registration Number
Methenamine	202-905-8	100-97-0		Flam. Sol. 2 (H228)SkinSens.1(H317)	No data available

VB-3026-3 Silver Nitrate Solution

Chemical Name	EC-No	CAS-No	Weight%	Classification (Reg. 1272/2008)	REACH Registration Number
Silver Nitrate	231-853-9	7761-88-8		Skin Corr. 1B (H314)Aquatic Acute 1(H400) Aquatic Chronic 1(H410) Ox.Sol. 2 H272	-

VB-3026-4 Borax Solution

Chemical Name	EC-No	CAS-No	Weight%	Classification (Reg. 1272/2008)	REACH Registration Number
Sodium borate	215-540-4	12267-73-1	<5%	Flam. Sol. 2 (H228)SkinSens.1(H317)	

VB-3026-5 Gold Chloride Solution

Chemical Name	EC-No	CAS-No	Weight%	Classification (Reg. 1272/2008)	REACH Registration Number
Gold chloride	236-623-1	13453-07-1		STOTSE 3 (H335) Skin Irrit. 2 (H315)Eye Irrit. 2 (H319)	-

VB-3026-6 Sodium Thiosulfate Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Sodium thiosulfate	-	7772-98-7		Not a hazardous substance or mixture.	-

VB-3026-7 NuclearFast Red Solution

Chemical Name	EC-No	CAS-No	Weight%	Classification (Reg. 1272/2008)	REACH Registration Number
Aluminum sulfate	-	7784-31-8		Eye Dam. 1 (H318)	-
Nuclear fast red	229-088-0	6409-77-4		Eye Irrit. 2 (H319)STOTSE3(H335) Skin Irrit. 2 (H315)	-
Sodium azide	247-852-1	26628-22-8		Acute Tox. 2 (H300)Acute Tox. 1 (H310)Aquatic Acute 1(H400) Aquatic Chronic 1(H410) (EUH032)	-

GHS/ CLP - GHS - Classification



Signal Word

Danger

Hazard statements

H314 - Causes severe skin burns and eye damageH318-

Causes serious eye damage

H317- May cause an allergic skin reaction

H411- Toxic to aquatic life with long lasting effects

Precautionary Statements-EU(\$28,1272/2008)P280 - Wear

protective gloves/ eye protection/ face protectionP260- Do not

breathe dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handlingP363-

Wash contaminated clothing before reuse

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

workplaceP301+P330+P331-IFSWALLOWED: rinsemouth.DoNOTinducevomiting

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

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 breathingP310 -

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

P273 - Avoid release to the

environmentP391- Collect spillage

P405- Store locked up

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

Other information

A safety data sheet follows for all potentially hazardous components—all other components are non-hazardous.

TRANSPORTINFORMATION

DOT

Not dangerous goods

IATA

Not dangerous goods

ADR

Not dangerous goods



1. PRODUCT AND COMPANY IDENTIFICATION

Product name Periodic acid solution (VB-3026-1)

Recommended use For research use only

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

Phone: 301-500-0499

Fax: 844-248-6208

Email: info@vitrovivo.com

2. HAZARDS IDENTIFICATION

GHS- Classification

Skin corrosion/irritation	Category2
Serious eye damage/eye irritation	Category2
Specific target organ systemic toxicity (repeated exposure)	Category2

GHS Label elements, including precautionary statements



Signal Word

Warning

Hazard statements

H319 - Causes serious eye

irritationH315- Causes skin irritation

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

Precautionary Statements-EU(\$28,1272/2008)

P280 - Wear protective gloves/ eye protection/ face protectionP260-

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

P264 - Wash face, hands and any exposed skin thoroughly after handlingP362-

Take off contaminated clothing and wash before reuse

P314- Get medical advice/ attention if you feel unwell

P332+ P313 - If skin irritation occurs: Get medical advice/ attention

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

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

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

Other information

No information available

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

Chemical Name	CAS-No	Weight %	Classification(Reg. 1272/2008)
Periodic acid	10450-60-9	<1	STOTRE 1 (H372) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Ox. Sol.1 (H271)

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

General advice	If symptoms persist, call a physician.
Eye contact	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.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Rinse mouth. If symptoms persist, call a physician.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTINGMEASURES

Flammable properties	Not flammable.
Flashpoint	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the Surrounding environment. Explosion Data

Explosion Data

Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None
Protective equipment and precautions for fire fighters	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.
Engineering measures	Showers Eye wash stations Ventilation systems
<u>Personal protective equipment</u>	
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

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	PhysicalState@20°C	No information available
pH	No information available		
Flashpoint	No information available	Auto ignition temperature	No information available
Decomposition temperature	No information available	Boiling point/boiling range	No information available
Melting point/range	No information available		
		Flammability Limits in Air	No information available
Explosion limits	No information available		
		Solubility	No information available.
Specific Gravity	No data available	Vapor Pressure @20°C (kPa)	No information available
Evaporation rate	No information available	VOC Content (%)	Not applicable
Vapor density	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	Irritating to skin, eyes and / or respiratory tract.
Inhalation	May cause irritation of respiratory tract
Eye contact	May cause irritation
Skin contact	May cause irritation
Ingestion	Ingestion may cause irritation to mucous membranes

Chronic toxicity

Target Organ Effects	None known.
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12. ECOLOGICAL INFORMATION

Ecotoxicity

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

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	This material, as supplied, is not a hazardous waste according to Federal regulations (40CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
Contaminated packaging	Do not re-use empty containers.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA313

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.

SARA311/312 Hazard Categories

Acute Health Hazard	no
Chronic Health Hazard	yes
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 40CFR 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.

U.S.State Right-to-Know Regulations

International Regulations

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

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled H314 - Causes severe skin burns and eye damage H318 - Causes serious eye damage H400 - Very toxic to aquatic life H271 - May cause fire or explosion; strong oxidizer

Hazard statements

H319 - Causes serious eye

irritation H315 - Causes skin irritation

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

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.



1. PRODUCT AND COMPANY IDENTIFICATION

Productname Methenamine Solution (VB-3026-2)

Recommendeduse For research use only

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

Phone: 301-500-0499

Fax: 844-248-6208

Email: info@vitrovivo.com

2. HAZARDS IDENTIFICATION

GHS- Classification

Skin sensitization	Category1
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GHSLabel elements, including precautionary statements



Signal Word

Warning

Hazard statements

H317- May cause an allergic skin reaction

Precautionary Statements-EU(\$28,1272/2008)

P280 - Wear protective gloves/ eye protection/ face protectionP261

- Avoid breathing dust/ fume/ gas/ mist/ vapors/ sprayP363- Wash contaminated clothing before reuse

P272 - Contaminated work clothing should not be allowed out of the workplaceP302+

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

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attentionP501-

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)
Methenamine	100-97-0	1-5	Flam. Sol. 2 (H228)SkinSens.1(H317)

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

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician.
Eye contact	immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin contact	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.
Inhalation	Move to fresh air.
Ingestion	Clean mouth with water. Drink plenty of water.
Notes to physician	May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flashpoint	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Specific hazards arising from the chemical	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 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.
Engineering measures	Showers Eye wash stations Ventilation systems
<u>Personal protective equipment</u>	
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

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @ 20°C	No information available
pH	No information available		
Flashpoint	No information available	Auto ignition temperature	No information available
Decomposition temperature	No information available	Boiling point/boiling range	No information available
Melting point/range	No information available		
Explosion limits	No information available	Flammability Limits in Air	No information available
Specific Gravity	No data available	Solubility	No information available.
Evaporation rate	No information available	Vapor Pressure @ 20°C (kPa)	No information available
Vapor density	No data available	Content (%)	3

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	May cause sensitization of susceptible persons
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Chronic toxicity

Chronic toxicity	Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure
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Sensitization	As a precaution the product should be treated as a sensitizer.
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Target Organ Effects	None known.
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12. ECOLOGICAL INFORMATION

Ecotoxicity

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

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
Contaminated packaging	Do not re-use empty containers.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not dangerous goods
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<u>IATA</u>	Not dangerous goods
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<u>ADR</u>	Not dangerous goods
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15. REGULATORY INFORMATION

U.S.Federal Regulations

SARA313

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.

SARA311/312 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 40CFR 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.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methenamine		X			

International Regulations

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

H228- Flammable solid H317 - May cause an allergic skin reaction

Hazard statements

H317- May cause an allergic skin reaction

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.



1. PRODUCT AND COMPANY IDENTIFICATION

Product name Silver Nitrate Solution (VB-3026-3)

Recommended use For research use only

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

Phone: 301-500-0499

Fax: 844-248-6208

Email: info@vitrovivo.com

2. HAZARDS IDENTIFICATION

GHS- Classification

Skin corrosion/irritation	Category1
Serious eye damage/eye irritation	Category1
Chronic aquatic toxicity	Category2
Ozone	Not applicable

GHSLabel elements, including precautionary statements



Signal Word

Danger

Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H411 - Toxic to aquatic life with long lasting effects

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

P280 - Wear protective gloves/ eye protection/ face protectionP260-

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

P264 - Wash face, hands and any exposed skin thoroughly after handlingP363-

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 breathingP310 -

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 todo. Continue rinsing

P273 - Avoid release to the

environmentP391- Collect spillage

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

3.1Substances

Chemical Name	CAS-No	Weight%	Classification(Reg. 1272/2008)
Silver Nitrate	7761-88-8	3-7	Skin Corr. 1B (H314) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Ox. Sol. 2H272

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

4. FIRST AID MEASURES

General advice	Immediate medical attention is required.
Eye contact	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.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required.
Notes to physician	Treat symptomatically.
Protection of first-aiders	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.
Flash point not determined
Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.
Protective equipment and precautions for firefighters wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions 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.
Environmental precautions Prevent further leakage or spillage if safe to do so. 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. Dam up.

7. HANDLING AND STORAGE

Advice on safe handling

Wear personal protective equipment. Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.

Technical measures/Storage conditions

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
Silver Nitrate 7761-88-8	TWA: 0.01 mg/m ³ Ag	TWA: 0.01 mg/m ³ Ag (vacated) TWA: 0.01 mg/m ³ Ag	IDLH: 10 mg/m ³ Ag TWA: 0.01 mg/m ³ Ag

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, Eye wash stations, 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

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	PhysicalState@20°C	No information available
pH	No information available	Auto ignition temperature	No information available
Flashpoint	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available	solubility	No information available.
Explosion limits	No information available	Vapor Pressure @20°C (kPa)	No information available
Specific Gravity	No data available	VOC Content(%)	Not applicable
Evaporation rate	No information available		
Vapor density	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

Acutotoxicity

Product Information	Corrosive to skin, eyes and/or respiratory tract.
Inhalation	Corrosiveby inhalation Causes burns
Eye contact	Causes burns Corrosive to eyes
Skin contact	Corrosive Causes burns
Ingestion	Causes burns

Chronic toxicity

Chronic toxicity Avoid repeated exposure

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Silver Nitrate		Group2A		X

IARC:(International Agency for Research on Cancer)

Group2A - Probably Carcinogenic to Humans

OSHA:(Occupational Safety & Health Administration)

X - Present

Target Organ Effects Eyes. Nasal Septum. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
	0.00512-0.00787:96 h Poeciliareticulatamg/LLC50 semi-static 0.009-0.02:96 h Lepomis macrochirusmg/L LC50 flow-through0.0242-0.0484:96 h Lepomis macrochirus mg/LLC50 semi-static 0.05-0.07:96 h Lepomis macrochirusmg/L LC50static 0.001339-0.001637:96 h Oncorhynchus mykiss mg/LLC50 flow-through 0.0075:96 h Oncorhynchus mykissmg/L LC50 semi-static0.00839-0.1802:96 h Oncorhynchus mykiss mg/LLC50 static 0.00452-0.00638:96 h Pimephales promelas mg/LLC50flow-through 0.00181-0.00214:96 h Pimephales promelas mg/LLC50static 0.0064-0.0106:96 h Pimephales promelasmg/LLC50semi-static0.009: 96 h Pimephalespromelasmg/LLC500.0027: 96 h Cyprinus carpiomg/LLC50 semi-static		0.0006: 48 h Daphniamagna mg/L EC50 0.0008 -0.001: 48 h Daphnia magnamg/L EC50 Flow through0.0008- 0.0011: 48 h Daphnia magna mg/L EC50Static

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Dispose of in accordance with 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
Silver Nitrate	Toxic

14. TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

15. REGULATORY INFORMATION

U.S.Federal Regulations

SARA313

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 %
Silver Nitrate	7761-88-8	5	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).

Chemical Name	CWA - Reportable Quantities	CWA- Toxic Pollutants	CWA- Priority Pollutants	CWA - Hazardous Substances
Silver Nitrate	1lb	X		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
Silver Nitrate	1lb		RQ 1 lb final RQRQ0.454kgfinal 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
Silver Nitrate	X	X	X		X

International Regulations

Chemical Name	Carcinogen Status	Exposure limits
Silver Nitrate		Mexico: TWA 0.01 mg/m ³

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 H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long-lasting effects

Hazard statements

H314 - Causes severe skin burns and eye damage H318 -

Causes serious eye damage

H411 - Toxic to aquatic life with long lasting effects

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.



1. PRODUCT AND COMPANY IDENTIFICATION

Product name Borax Solution (VB-3026-4)

Recommended use For research use only

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

Phone: 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

Danger

Hazard statements

H319- Causes serious eye irritation.

H360- May damage fertility or the unborn child.

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

P280 - Wear protective gloves/ eye protection/ face protection P261

- Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray P363- Wash contaminated clothing before reuse

P272 - Contaminated work clothing should not be allowed out of the workplace P302+

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

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attentionP501-
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)
Disodium tetraborate hydrate	12267-73-1	1-5	Eye Irrit. 2A; Repr. 1B; H319, H360 Concentration limits: >= 4.5 %: Repr. 1B, H360FD;

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

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin contact	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 physician.
Inhalation	Moveto fresh air.
Ingestion	Clean mouth with water. Drink plenty of water.
Notes to physician	May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flashpoint	not determined
Suitable extinguishing media environment.	Use extinguishing measures that are appropriate to local circumstances and the surrounding
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

Specific hazards arising from the chemical 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.
Engineering measures	Showers Eye wash stations, Ventilation systems
<u>Personal protective equipment</u>	
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

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	No information available
pH	No information available	Auto ignition temperature	No information available
Flashpoint	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available		
Explosion limits	No information available		
Specific Gravity	No data available	Solubility	No information available.
Evaporation rate	No information available	Vapor Pressure @20°C (kPa)	No information available
Vapor density	No data available	VOCContent(%)	3

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	May cause sensitization of susceptible persons
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Chronic toxicity

Chronic toxicity	Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure
-------------------------	---

Sensitization	As a precaution the product should be treated as a sensitizer.
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Target Organ Effects	None known.
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12. ECOLOGICAL INFORMATION

Ecotoxicity

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

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
Contaminated packaging	Do not re-use empty containers.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not dangerous goods
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<u>IATA</u>	Not dangerous goods
--------------------	---------------------

<u>ADR</u>	Not dangerous goods
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15. REGULATORY INFORMATION

U.S.Federal Regulations

SARA313

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.

SARA311/312 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 40CFR 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.

U.S.State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
disodium tetraborate hydrate		X			

International Regulations

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

H228- Flammable solid H317 - May cause an allergic skin reaction

Hazard statements

H317- May cause an allergic skin reaction

Disclaimer

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name Gold Chloride Solution (VB-3026-5)

Recommended use For research use only

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

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

Other information No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight%	Classification(Reg. 1272/2008)
Gold chloride	13453-07-1	0.1-1	STOTSE 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

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation	Move to fresh air.
Ingestion	Clean mouth with water. Drink plenty of water.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flashpoint	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<u>Explosion Data</u>	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
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	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.
Engineering measures	Showers Eye wash 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

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	No information available
pH	No information available	Auto ignition temperature	No information available
Flashpoint	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available		
Explosion limits	No information available		
Specific Gravity	No data available	Solubility	No information available.
Evaporation rate	No information available	Vapor Pressure @20°C (kPa)	No information available
Vapor density	No data available	VOCContent(%)	Not applicable

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

Chronic toxicity

Target Organ Effects None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

13. DISPOSAL CONSIDERATIONS

Waste disposal methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA313

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.

SARA311/312 Hazard Categories

Acute Health Hazard	no
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 40CFR 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.

U.S.State Right-to-Know Regulations

International Regulations

WHMIS Note:

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

16. OTHER INFORMATION

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

H335- May cause respiratory irritation H315 - Causes skin irritation H319 - Causes serious eye irritation

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.



1. Identification of the Substance/Mixture and Company

Product name Sodium thiosulfate solution (VB-3026-6)

Recommended use For research use only

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

Phone: 301-500-0499

Fax: 844-248-6208

Email: info@vitrovivo.com

2. Composition/information on ingredients

Composition:

Name	CAS #
Sodium Thiosulfate	10102-17-7
Water	7732-18-5

3. Hazards Identification

Emergency Overview

Appearance: colorless liquid.

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

Target Organs: None.

Potential Health Effects

Eye: May cause mild eye irritation.

Skin: May cause skin irritation.

Ingestion: Ingestion of large amounts may cause gastrointestinal irritation.

Inhalation: Low hazard for usual industrial handling. May cause respiratory tract irritation.

Chronic: No information found.

4. First Aid Measures

Eye Contact:

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops.

Skin Contact:

Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops.

Inhalation:

Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Ingestion:

Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

5. Fire Fighting Data

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Extinguishing Media:

For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits

Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

6. Accidental Release Measures**General Information:**

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

7. Handling and Storage**Handling:**

Avoid prolonged or repeated contact with skin. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage:

Store in a cool, dry place. Store in a tightly closed container.

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

Use adequate ventilation to keep airborne concentrations low.

OSHA Vacated PELs:

Water: No OSHA Vacated PELs are listed for this chemical. Sodium thiosulfate, pentahydrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protection:

Eye Protection: Safety glasses or goggles.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.

9. Physical and Chemical Properties

Appearance:	Colorless liquid
pH:	N/A
Odor:	odorless
Boiling Point:	212° F
Freezing/Melting Point:	32 ° F
Decomposition Temperature:	N/A
Vapor Pressure:	14 mm Hg
Vapor Density:	N/A
Evaporation Rate:	>1 (ether=1)
Viscosity:	N/A
Solubility in Water:	Completely soluble in water.
Melting Point:	0°C
Specific Gravity / Density:	1.0-1.
Molecular Formula:	Mixture

10. Stability and Reactivity Data

Chemical Stability:	Stable under normal conditions of use and storage.
Conditions to Avoid:	Excess heat.
Incompatibilities with Other Materials:	Sodium thiosulfate violently reacts with sodium nitrite. It is also incompatible with strong oxidizers, acid
Hazardous Decomposition Products:	Hydrogen sulfide, sodium oxide
Hazardous Polymerization:	Has not been reported.

11. Toxicological Information

RTECS#:	
CAS# 7732-18-5:	ZC0110000
CAS# 10102-17-7:	WE6660000
LD50/LC50:	
CAS# 7732-18-5:	Orat: LD50 = >90 mL/kg;
Carcinogenicity:	
CAS# 7732-18-5:	Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 10102-17-7:	Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology:	N/A
Teratogenicity:	N/A
Reproductive Effects:	N/A
Mutagenicity:	N/A
Neurotoxicity:	N/A
Other Studies:	

12. Ecological Information

Ecotoxicological Information:	N/A
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13. Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

14. Transport Information

This product is not regulated.

15. Regulatory Information

US Federal Regulation

TSCA

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 10102-17-7 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2))

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.

State

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 10102-17-7 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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VB-3026-7 Safety Data Sheet

Revision Date Jan-06-2022 Version 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Nuclear Fast Red Solution (VB-3026-7)

Recommended use For research use only

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

Phone: 301-500-0499

Fax: 844-248-6208

Email: info@vivrovivo.com

2. HAZARDS IDENTIFICATION

GHS- Classification

Serious eye damage/eye irritation	Category 1
Ozone	Not applicable

GHS Label elements, including precautionary statements



Signal Word

Danger

Hazard statements

H318- Causes serious eye damage

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

P280- Wear protective gloves/ eye protection/ face protection

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

P310- Immediately call a POISON CENTER or doctor/ physician

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight%	Classification(Reg. 1272/2008)
Aluminum sulfate	7784-31-8	3-7	Eye Dam. 1 (H318)
Nuclear fast red	6409-77-4	0.1-1	Eye Irrit. 2 (H319)STOTSE3(H335) Skin Irrit. 2 (H315)
Sodium azide	26628-22-8	0.1-1	Acute Tox. 2 (H300)Acute Tox. 1 (H310)Aquatic Acute 1 (H400)Aquatic Chronic 1 (H410)(EUH032)

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

4. FIRST AID MEASURES

General advice	Immediate medical attention is required.
Eye contact	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.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required.
Notes to physician	Treat symptomatically.
Protection of first-aiders	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.
Flashpoint	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
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. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
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. Soak up with inert absorbent material. Dam up.

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. Use only in area provided with appropriate exhaust ventilation.
Technical measures/Storage conditions	Keep container tightly closed in a dry and well-ventilated place. 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.
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Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m ³ NaN ₃ Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN ₃ (vacated) Ceiling: 0.3 mg/m ³ NaN ₃	Ceiling: 0.1 ppm HN ₃ Ceiling: 0.3 mg/m ³ NaN ₃

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).
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Engineering measures	Showers Eyewash stations Ventilation systems
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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. Provide regular cleaning of equipment, work area and clothing.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	PhysicalState@20°C	No information available
pH	No information available		
Flashpoint	No information available	Auto ignition temperature	No information available
Decomposition temperature	No information available	Boiling point/boiling range	No information available
Melting point/range	No information available		
		Flammability Limits in Air	No information available
Explosion limits	No information available		
		solubility	No information available.
Specific Gravity	No data available	Vapor Pressure @20°C (kPa)	No information available
Evaporation rate	No information available	VOC Content(%)	Not applicable
Vapor density	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	Corrosive to skin, eyes and/or respiratory tract.
Inhalation	Corrosive by inhalation Causes burns
Eye contact	Causes burns Corrosive to eyes
Skin contact	Corrosive Causes burns
Ingestion	Causes burns

Chronic toxicity

Chronic toxicity	Avoid repeated exposure
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
Sodium azide		0.8:96 h oncorhynchus mykiss mg/L LC50 0.7: 96 h Lepomis macrochirus mg/LLC50 5.46: 96 h Pimephale spromelas mg/L LC50 flow-through		

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging

Do not re-use empty containers.

USEPA Waste Number

P105

ChemicalName	RCRA – Halogenated Organic Compounds	RCRA- P Series Wastes	RCRA- F Series Wastes	RCRA- K Series Wastes
Sodium azide - 26628-22-8		P105		

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
Sodium azide	Ignitable Reactive

14. TRANSPORT INFORMATION

DOT

Not dangerous goods

IATA

Not dangerous goods

ADR

Not dangerous goods

15. REGULATORY INFORMATION

U.S.Federal Regulations

SARA313

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.

SARA311/312 Hazard Categories

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

Reactive Hazard	no
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Clean Water Act

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

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium azide	1000lb	1000lb	RQ1000 lb final RQ RQ 454 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
Sodium azide	X	X	X		X

International Regulations

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

H300 - Fatal if swallowed
H310 - Fatal in contact with skin
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H315 - Causes skin irritation
Hazard statements
H318 - Causes serious eye damage

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.