



Material Safety Data Sheet

Revision Date: 08-06-2026

Kit Name: In Situ GFP Detection IHC Kit (50 Assays)

SKU#: VB-4100

Components:

VB-4100-1	10×Antigen Retrieval Solution
VB-4100-2	RTU Blocking buffer
VB-4100-3	RTU anti-GFP Antibody
VB-4100-4	RTU polymeric peroxidase conjugated secondary antibody
VB-4100-5	GFP positive FFPE slides

VB-4100-1 10×Antigen Retrieval Solution MSDS

1. Identification of the Substance/Mixture and Company

Product Name	10×Antigen Retrieval Solution MSDS
Catalog#	VB-4100-1
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Classification

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Based on available data, the classification criteria are not met

Label Elements

None required

Hazards not otherwise classified (HNOC)

None identified

3. Composition/information on ingredients

Mixtures Description: Mixture of the substances listed below.

Composition:

Component	CAS#
Citrate acid	77-92-9
Sodium hydroxide	1310-73-2

4. First Aid Measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects None reasonably foreseeable.

Notes to Physician Treat symptomatically

5. Firefighting Measures

Suitable Extinguishing Media	Not combustible.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available

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

Specific Hazards Arising from the Chemical

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

Hazardous Combustion Products

Sodium oxides.

Protective Equipment and Precautions for Firefighters

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

NFPA

Health	Flammability	Instability	Physical hazards
1	0	0	-

6. Accidental Release Measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required.
Environmental Precautions	Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up	Sweep up and shovel into suitable containers for disposal.
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7. Handling and Storage

Handling	Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.
Storage	Keep refrigerated.

8. Exposure Controls/Personal Protection

<u>Exposure Guidelines</u>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Measures	None under normal use conditions.
<u>Personal Protective Equipment</u>	
Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	No protective equipment is needed under normal use conditions.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Physical State	Liquid
Appearance	Colorless
Odor	Odorless
Odor Threshold	No information available
pH	4 - 6
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	No information available

Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available

10 Stability and Reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products.
Incompatible Materials	Oxidizing agent
Hazardous Decomposition	Products Sodium oxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information

Acute Toxicity

Product Information

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

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citric acid	LD50 = 3 g/kg (Rat) LD50 = 3000 mg/kg (Rat)	>2 g/kg (Rat)	Not listed

Toxicologically Synergistic Products No information available

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

Irritation	No information available
Sensitization	No information available
Carcinogenicity	No information available
Mutagenic Effects	No information available
Reproductive Effects	No information available
Developmental Effects	No information available
Teratogenicity	No information available
STOT - single exposure	None known
STOT - repeated exposure	None known
Aspiration hazard	No information available
Symptoms / effects,both acute and delayed	No information available
Endocrine Disruptor Information	No information available
Other Adverse Effects	The toxicological properties have not been fully investigated

12. Ecological Information

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Citric acid	Not listed	Leuciscus idus: LC50 = 440-760 mg/L/96h	Photobacterium phosphoreum: EC50 = 14 mg/L/15 min	EC50 = 120 mg/L/72h

Persistence and Degradability
Bioaccumulation/ Accumulation
Mobility
Component Citric acid

Miscible with water Persistence is unlikely based on information available.
 No information available.
 Will likely be mobile in the environment due to its water solubility.
 log Pow -1.72

13. Disposal Considerations

Waste Disposal Methods

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

14. Transport Information

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

15. Regulatory Information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Citric acid	77-92-9	X	ACTIVE	-
Sodium hydroxide	1310-73-2	-	-	-

Legend:

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

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

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

Component	CAS-No	DSL	NDL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Citric acid	77-92-9	X	-	231-791-2	X	X	X	X	KE-35400
NaOH	1310-73-2	-	-	-	X	-	X	X	-

U.S. Federal Regulations

SARA 313 Not applicable
SARA 311/312 Hazard Categories See section 2 for more information
CWA (Clean Water Act) Not applicable
Clean Air Act Not applicable
OSHA - Occupational Safety and Health Administration Not applicable
CERCLA Not applicable
California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. Department of Transportation
 Reportable Quantity (RQ):

N

DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

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

Other International Regulations

Mexico - Grade	No information available
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16. Other Information

The information in this safety data sheet is believed to be accurate but is not guaranteed. The data and calculations are based on information provided by the product manufacturer and the manufacturers of its components. Users should verify before use that the information is current, applicable, and appropriate for their intended circumstances. The vendor is not responsible for injuries to the purchaser or third parties caused by the material when the safety procedures specified in this data sheet are not followed. The vendor is also not responsible for injuries resulting from abnormal use, even when reasonable safety procedures are followed. Direct questions about this product to the manufacturer identified 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-4100-2 RTU Blocking Buffer MSDS

1. Identification of the Substance/Mixture and Company

Product Name	RTU blocking buffer
Catalog#	VB-4100-2
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

GHS Classification

Signal Word	None
Hazard pictograms	None
Health hazards	Not Hazardous
Environmental hazards	Not Hazardous
Hazard Statements	Not Applicable

Precautionary Statements

Prevention	Not Applicable
Response	Not Applicable
Storage	Not Applicable
Disposal	Not Applicable
Other hazards	Not Applicable

3. Composition/information on ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures

Description of first aid measures

Skin contact	Rinse skin with water. Immediate medical attention is not required.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
Inhalation	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
Notes to Physician	Treat symptomatically.

Most important symptoms and effects, both acute and delayed

Not Applicable

Indication of any immediate medical attention and special treatment needed

None.

5. Firefighting Measures

Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture

Not known

Protective equipment and precautions for firefighters

Standard procedure for chemical fires.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation
Always wear recommended Personal Protective Equipment
Use personal protection equipment
See section 8 for more information

Environmental precautions

No special environmental precautions required.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

7. Handling and Storage

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place.
Keep in properly labeled containers.

Specific end use(s)

For Laboratory Use

8. Exposure Controls/Personal Protection

Control parameters

Exposure Limits	Contains no substances with occupational exposure limit values.
Engineering Measures	Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal Protective Equipment

Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body Protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No special environmental precautions require

9. Physical and Chemical Properties

Physical State	Liquid
Appearance	Colorless
Odor	Odorless
Odor Threshold	No information available
pH	6-8
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	

Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available

10 Stability and Reactivity

Reactivity	None known.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	No information available.
Incompatible materials	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	No data available

11. Toxicological Information

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Acute toxicity	Data are conclusive but insufficient for classification.
Skin corrosion/irritation	Data are conclusive but insufficient for classification
Serious eye damage/irritation	Data are conclusive but insufficient for classification
Respiratory or skin sensitization	Data are conclusive but insufficient for classification

Specific target organ toxicity (STOT)–single exposure

Data are conclusive but insufficient for classification

Specific target organ toxicity (STOT)–repeated exposure

Data are conclusive but insufficient for classification

Carcinogenicity	Data are conclusive but insufficient for classification
Germ cell mutagenicity	Data are conclusive but insufficient for classification
Reproductive toxicity	Data are conclusive but insufficient for classification
Aspiration hazard	Data are conclusive but insufficient for classification

12. Ecological Information

Ecotoxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available.
Persistence and degradability	No information available.
Bioaccumulative potential	No information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other adverse effects

No information available

13. Disposal Considerations

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique.

Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations

14. Transport Information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable
Environmental hazards	Not Applicable
Special precautions for user	Not Applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Applicable.

15. Regulatory Information

US Federal Regulations

SARA 313

This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain HAPs

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class

Non-controlled

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

National Regulations - Brazil

Not regulated

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)

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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-4100-3 RTU anti-cleaved PARP-1 antibody MSDS

1. Identification of the Substance/Mixture and Company

Product Name	RTU anti-GFP antibody
Catalog#	VB-4100-3
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Classification of the substance or mixture

Not a hazardous substance or mixture.

GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS – non

3. Composition/information on ingredients

Mixtures

No components need to be disclosed according to the applicable regulations.

4. First Aid Measures

Description of first-aid measures

If inhaled	After inhalation: fresh air.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of eye contact	After eye contact: rinse out with plenty of water. Remove contact lenses.
If swallowed	After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting Measures

Extinguishing media

Suitable extinguishing media

Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

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

Special hazards arising from the substance or mixture

Nature of decomposition products not known.

Mixture with combustible ingredients.

Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

7. Handling and Storage

Precautions for safe handling

For precautions see section

Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Storage stability

Recommended storage temperature -20 °C

Storage class (TRGS 510): 10: Combustible liquids

Specific end use(s)

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

8. Exposure Controls/Personal Protection

Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

Personal protective equipment

Eye/face protection

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

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Respiratory protection

Not required; except in case of aerosol formation.

Control of environmental exposure

Do not let product enter drains.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State: Liquid

Appearance: clear

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: Not available.

Molecular Formula: Solution

Molecular Weight: Not available.

10 Stability and Reactivity

Reactivity

No data available

Chemical stability

The product is chemically stable under standard ambient conditions

Possibility of hazardous reactions

No data available

Conditions to avoid

no information available

Incompatible materials

Halogenated hydrocarbon, Acids, Metals, Halogenated compounds, Acid chlorides, Dimethyl sulfate Strong oxidizing agents

Hazardous decomposition products

In the event of fire: see section 5

11. Toxicological Information

Information on toxicological effects

Mixture

Acute toxicity

No data available

Inhalation:

No data available

Dermal:

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC:

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP:

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity No data available
Specific target organ toxicity - single exposure No data available
Specific target organ toxicity - repeated exposure No data available
Aspiration hazard No data available

Additional Information RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

12. Ecological Information

Toxicity

Mixture

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

No data available

13. Disposal Considerations

Waste treatment methods

Product

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

14. Transport Information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Further information

Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information

SARA 302 Components

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

SARA 313 Components

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

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

sodium azide CAS-No. 26628-22-8

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

Pennsylvania Right To Know Components

sodium azide CAS-No. 26628-22-8

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:

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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-4100-4 RTU polymeric peroxidase conjugated secondary antibody MSDS

1. Identification of the Substance/Mixture and Company

Product Name RTU polymeric peroxidase conjugated secondary antibody
Catalog# VB-4100-4
Product Description Component
Manufacturer/Supplier VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

Classification

This substance/mixture is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Label elements, including precautionary statements

Signal Word
Not classified

Hazard statement(s)

None.

Precautionary Statement(s)

None.

Supplementary Hazard Information

May produce an allergic reaction

Hazards not otherwise classified (HNOC)

Not applicable.

3. Composition/information on ingredients

Substances

Not applicable

Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

4. First Aid Measures

Eye contact

Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Get medical attention immediately if irritation persists.

Skin contact

Wash skin with soap and water.

Inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur.

Ingestion

Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice

For further assistance, contact your local Poison Control Center.

Protection of first-aiders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
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5. Firefighting Measures

Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical	No information available.
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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

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Avoid contact with skin, eyes and clothing. Use personal protective equipment. For personal protection see section 8.
Other information	No information available

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

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.

7. Handling and Storage

Precautions for safe handling

Wear personal protective equipment. See section 8. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
Packaging material	No information available.
Incompatible products	Strong oxidizing agents. Strong acids

8. Exposure Controls/Personal Protection

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection	If splashes are likely to occur, wear: Tightly fitting safety goggles
Skin and body protection	Wear protective gloves/clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA

Hygiene measures

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.
Handle in accordance with good industrial hygiene and safety practice.

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

Physical State: Liquid

Appearance: clear

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: Not available.

Molecular Formula: Solution

Molecular Weight: Not available.

10 Stability and Reactivity**Reactivity**

No information available.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Hazardous reactions None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to Avoid

Extremes of temperature and direct sunlight. Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the HIGHLY EXPLOSIVE compounds of lead azide & copper azide.

Incompatible Materials

No information available.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information**Information on likely routes of exposure**

Inhalation Avoid breathing vapors or mists. May cause irritation of respiratory tract.

Eye contact Avoid contact with eyes. May cause slight irritation.

Skin contact Avoid contact with skin.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

Sensitization	No information available.
Mutagenic effects	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Neurological effects	No information available.
Aspiration Hazard	No information available.

12. Ecological Information

Toxicity

Ecology-general The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment

Persistence and degradability No information available.

Bioaccumulation No information available.

Mobility No information available

Other adverse effects

No information available

13. Disposal Considerations

Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way

14. Transport Information

This material is not subject to regulation as a hazardous material for shipping

15. Regulatory Information

US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

International regulations

No additional information available

US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

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-4100-5 Cleaved PARP-1 Positive Control FFPE Slides MSDS

1. Identification of the Substance/Mixture and Company

Product Name	GFP Positive Control FFPE Slides
Catalog#	VB-4100-5
Product Description	Component
Manufacturer/Supplier	VitroVivo Biotech, LLC. 405 E Gude Dr., Suite 214, Rockville, MD 20850
Tel/fax Number	Phone: 301-500-0499; Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Hazards Identification

GHS-Classification

Signal Word

Not Hazardous

Health Hazard

Not Hazardous

Physical Hazards

Not Hazardous

Principle Routes of Exposure/Potential Health Effects

Eyes	May be harmful if exposed to eyes. May cause eye irritation, watering eyes, stinging or burning sensation.
Skin	May be harmful if exposed to skin. May cause skin irritation, itching, redness or inflammation.
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation, headache, dizziness, nausea or coughing.
Ingestion	May be harmful if swallowed. May cause irritation of gastrointestinal tract, nausea, or vomiting.

Specific Effects

Carcinogenic Effects	None
Mutagenic Effects	None
Reproductive Toxicity	None
Sensitization	None
Target Organ Effects	No known effects under normal use conditions.

WHMIS

Health	0
Flammability	0
Reactivity	0

3. Composition/information on ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash off with soap and plenty of water. Consult a physician.
Inhalation	If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Firefighting Measures

Suitable Extinguishing Media	Use water spray, alcohol- resistant foam, dry chemical or carbon dioxide.
Special Protective	Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.
Equipment for Fire-fighters	
Unusual Fire	N/A
Explosions Hazard(s)	N/A
Flash Point	N/A
Autoignition Temp	N/A
Flammability	N/A

6. Accidental Release Measures

Personal Precautions	Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of vapors. Wear disposable coveralls and discard them after use.
Methods for Cleaning-up	Soak up with inert absorbing materials and place in a closed container for disposal. Ventilate area and wash spill site after material pickup is complete.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. See Section 12 for additional information.

7. Handling and Storage

Handling	Always wear recommended Personal Protective Equipment. Avoid contact with eyes, skin and clothing. Do not ingest. Wash hands thoroughly after use.
Storage	Keep cap tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure Controls/Personal Protection

Exposure Limits
No known exposure limits.

Engineering Measures
Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Personal Protective Equipment Person protective Equipment requirements are dependent of the user institution's risk assessment, and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory Protection	Wear Suitable respiratory equipment if ventilation is insufficient.
Hand	Compatible chemical-resistant gloves.
Eye	Compatible safety goggles.
Skin and Body Protection	Lightweight protective clothing.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls
No special environmental precautions required.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State: Solid
Appearance: clear
Odor: odorless
pH: Not available.

Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: Not available.
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density: Not available.
Molecular Formula: Not available.
Molecular Weight: Not available.

10 Stability and Reactivity

General Physical Properties

Stability	Stable under recommended storage conditions.
Materials to Avoid	No information available
Hazardous Decomposition	No information available
Hazardous Polymerization	Does not occur

11. Toxicological Information

Acute Toxicity

Not Hazardous

Principle Route of Exposure/Potential Health Effects

Eye	No information available
Skin	No information available
Inhalation	No information available
Ingestion	No information available
Carcinogenic Effects	None
Mutagenic Effects	No information available
Reproductive Toxicity	No information available
Sensitization	No information available
Target Organ Effects	No known effects under normal use conditions.

12. Ecological Information

Ecotoxicity Effects	No information available
Mobility	No information available.
Biodegradation	Inherently biodegradable.
Bioaccumulation	Does not bioaccumulate.

13. Disposal Considerations

Dispose of in accordance with local regulations.

14. Transport Information

IATA

Proper Shipping	Not classified as dangerous under the transport regulations.
Name Hazard Class	None
Subsidiary Class	None
Packing Group	None
Un-No	None

15. Regulatory Information

U.S. Federal Regulations

SARA 313

Not Regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs)

Contains no HAPs.

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

Contains no chemical listed under Proposition 65.

Canadian Regulations

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 CPR.

WHMIS Hazard Class

Not controlled.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

16. Other Information

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