

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name STOP SOLUTION

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

24 hour Emergency Response for Hazardous Materials

**[or Dangerous Goods] Incident. Spill, Leak, Fire,
Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

For research use only. Not for use in diagnostic procedures

SECTION 2: Hazards identification

GHS Classification

Signal Word
DANGER

Hazard pictograms

**Health hazards**

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

Physical hazards

Not Hazardous

Environmental hazards

Not Hazardous

Hazard Statements

H314 - Causes severe skin burns and eye damage

Precautionary Statements**Prevention**

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

P264 - Wash hands thoroughly after handling

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

Response

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

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

P310 - Immediately call a POISON CENTER or doctor/physician

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

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

P363 - Wash contaminated clothing before reuse

Storage

Not Applicable

Disposal

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

Other hazards

Not Applicable

HMIS

Health	3
Flammability	0
Reactivity	0

SECTION 3: Composition/information on ingredients

Chemical Name	CAS No.	Common name	EC No.	Weight-%
Phosphoric acid	7664-38-2	Not applicable	231-633-2	5-10

We recommend handling all chemicals with caution.

SECTION 4: First aid measures

Description of first aid measures

Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Immediate medical attention is required.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician or poison control center immediately.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately.
Notes to Physician	Treat symptomatically.

Most important symptoms and effects, both acute and delayed

H314 - Causes severe skin burns and eye damage

Indication of any immediate medical attention and special treatment needed

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

SECTION 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

No data

Hazardous Combustion Products

No known hazardous decomposition products.

Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Avoid contact with skin, eyes or clothing

Use personal protection equipment

See section 8 for more information

Environmental precautions

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

Always wear recommended Personal Protective Equipment. See section 8 for more information. Do not get in eyes, on skin, or on clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers. Store in accordance with local regulations.

Specific end use(s)

For research use only.

SECTION 8: Exposure controls/personal protection

Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Phosphoric acid	1 mg/m ³	None	1 mg/m ³	3 mg/m ³

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
Phosphoric acid	1 mg/m ³	None	None

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 laboratory coat for body protection.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice
Environmental exposure controls	
No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.	

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Color	No data	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient:	No data	
n-octanol/water		
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information

Information with regard to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 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 known hazardous decomposition products.

SECTION 11: Toxicological information

Information on toxicological effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Phosphoric acid	= 1530 mg/kg (Rat)	= 2740 mg/kg(Rabbit)	>850mg/m ³ (Rat)

Principal Routes of Exposure

Acute toxicity	Data are conclusive but insufficient for classification.
Skin corrosion/irritation	Causes severe burns
Serious eye damage/irritation	Causes serious eye damage
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

SECTION 12: Ecological information

Toxicity

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

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
Phosphoric acid	No data available	No data available	No data available	No data available	No data available

Mobility in soil No information available.

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Results of PBT and vPvB assessment

No information available.

Other adverse effects No information available.

SECTION 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.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Classified as dangerous in the meaning of transport regulations

UN number or ID number	1760
UN proper shipping name	Corrosive liquid, n.o.s. (Phosphoric Acid solution)
Transport hazard class(es)	8
Packing group	III

Environmental hazards

Not Applicable

Special precautions for user

Not Applicable

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 15: Regulatory information

Component	US TSCA
Phosphoric acid 7664-38-2 (5-10)	Listed

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

Chemical Name	Massachusetts - RTK (Right-to-Know)	New Jersey - RTK (Right-to-Know)	Pennsylvania - RTK (Right-to-Know)
Phosphoric acid	Listed	Listed	Listed

California Proposition 65

This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class

E - Corrosive material

D2B - Toxic materials

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

<u>Chemical Name</u>	<u>CAS No.</u>	Brazil - National Agency for Sanitary Surveillance (ANVISA)	Brazil - National List of Carcinogen Agents to Humans (LINACH)
Phosphoric acid	7664-38-2	Not Listed	Not Listed

SECTION 16: Other information

Reason for revision SDS sections updated.

Revision number 4

Revision date 17-Apr-2024

For research use only. Not for use in diagnostic procedures.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>

• LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average

OELs - Occupational Exposure Limits

STEL - Short Term Exposure Limit

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

INECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

CEPA - Canadian Environmental Protection Act

EPA - Environmental Protection Agency

OSHA - Occupational Safety and Health Administration of the US Department of Labor

IATA - International Air Transport Association

DOT - Department of Transportation

IMDG - International Maritime Dangerous Goods

ACGIH - American Conference of Governmental Industrial Hygienists

NIOSH - National Institute for Occupational Safety and Health

AIHA - American Industrial Hygiene Association

HMIS - Department of Defense Hazardous Materials Information System

NTP - National Toxicology Program

IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name Assay Buffer 20X

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

**24 hour Emergency Response for Hazardous Materials
[or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

SECTION 2: Hazards identification

GHS Classification**Signal Word**

None

Hazard pictograms

None

Health hazards

Not Hazardous

Physical 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

HMIS

Health	0
Flammability	0
Reactivity	0

SECTION 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.

SECTION 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.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media
Unsuitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.
No information available.

Special hazards arising from the substance or mixture

Not known

Advice for firefighters

Standard procedure for chemical fires.

SECTION 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.

SECTION 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 research use only.

SECTION 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 required.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	liquid	
Color	No data	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
pH	No data	
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient:	No data	
n-octanol/water		
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information**Information with regard to physical hazard classes**

No information available

Other safety characteristics

No information available

SECTION 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.

SECTION 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

SECTION 12: Ecological information

Toxicity

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.

SECTION 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.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable

Marine pollutant

No

Environmental hazards

Not Hazardous

Special precautions for user

Not Applicable

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 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

SECTION 16: Other information

Reason for revision	SDS sections updated.
Revision number	7
Revision date	28-Apr-2023

For research use only. Not for use in diagnostic procedures.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name Biotin Conjugate

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

**24 hour Emergency Response for Hazardous Materials
[or Dangerous Goods] Incident. Spill, Leak, Fire,
Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

For research use only. Not for use in diagnostic procedures

SECTION 2: Hazards identification

GHS Classification

Signal Word
None

Hazard pictograms
None

Health hazards
Not Hazardous

Physical 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

HMIS

Health	0
Flammability	0
Reactivity	0

SECTION 3: Composition/information on ingredients

Chemical Name	CAS No.	Common name	EC No.	Weight-%
SODIUM AZIDE	26628-22-8	Not applicable	247-852-1	0.1-1.0

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

SECTION 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.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture

Not known

Hazardous Combustion Products	No data available.
--------------------------------------	--------------------

Advice for firefighters

Standard procedure for chemical fires.

SECTION 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. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

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 research use only.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure Limits

Contains no substances with occupational exposure limit values.

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
SODIUM AZIDE	None	None	None	None

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
SODIUM AZIDE	None	0.29 mg/m ³ 0.11 ppm	None

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 required. Avoid discharge into drains and waterways whenever possible.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Color	No information available	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
pH	No data	
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient: n-octanol/water	No data	
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information

Information with regard to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 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.

SECTION 11: Toxicological information

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
SODIUM AZIDE	= 27 mg/kg (Rat)	=20 mg/kg(Rat)	0.054 - 0.52mg/L(Rat)

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/irritationData 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

SECTION 12: Ecological information

Toxicity

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

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
SODIUM AZIDE	No data available	No data available	LC50: = 5.46 mg/L, 96h flow-through (Pimephales promelas) LC50: = 0.7 mg/L, 96h (Lepomis macrochirus) LC50: = 0.8 mg/L, 96h (Oncorhynchus mykiss)	No data available	No data available

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.

SECTION 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 accordance with 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.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID 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

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 15: Regulatory information

Component	US TSCA
SODIUM AZIDE 26628-22-8 (0.1-1.0)	Listed

US Federal Regulations

SARA 313

This product is not regulated by SARA.

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>SARA 313 - Threshold Values</u>
SODIUM AZIDE	26628-22-8	0.1-1.0	1.0

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

This product does not contain HAPs

US State Regulations

Chemical Name	Massachusetts - RTK (Right-to-Know)	New Jersey - RTK (Right-to-Know)	Pennsylvania - RTK (Right-to-Know)
SODIUM AZIDE	Listed	Listed	Listed

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

<u>Chemical Name</u>	<u>CAS No.</u>	Brazil - National Agency for Sanitary Surveillance (ANVISA)	Brazil - National List of Carcinogen Agents to Humans (LINACH)
SODIUM AZIDE	26628-22-8	Not Listed	Not Listed

SECTION 16: Other information

Reason for revision	SDS sections updated.
Revision number	3
Revision date	16-Nov-2024

For research use only. Not for use in diagnostic procedures.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name Lysis Buffer 10x

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

**24 hour Emergency Response for Hazardous Materials
[or Dangerous Goods] Incident. Spill, Leak, Fire,
Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

**For research use only. Not for use in diagnostic
procedures.**

SECTION 2: Hazards identification

GHS Classification

Health hazards

Serious eye damage/eye irritation	Category 1
-----------------------------------	------------

Physical hazards

Not Hazardous

Environmental hazards

Chronic aquatic hazard	Category 3
------------------------	------------

Label elements

Signal Word

DANGER

Hazard pictograms



Hazard Statements

H318 - Causes serious eye damage

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

Prevention

P273 - Avoid release to the environment

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

Response

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

Storage

Not Applicable

Disposal

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

Other hazards

Contains a known or suspected endocrine disruptor.

SECTION 3: Composition/information on ingredients

Chemical Name	CAS No	Common name	EINECS-No.	Weight-%
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega. -hydroxy-	9002-93-1	Not applicable	618-344-0	7-13
Ethyl alcohol	64-17-5	Not applicable	200-578-6	1-5

We recommend handling all chemicals with caution.

SECTION 4: First aid measures

Description of first aid measures

Skin contact

Rinse skin with water. Immediate medical attention is not required.

Eye contact

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

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

H318 - Causes serious eye damage H412 - Harmful to aquatic life with long lasting effects

Indication of any immediate medical attention and special treatment needed

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention if you feel unwell.

SECTION 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

No data

Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Avoid contact with skin, eyes or clothing

Use personal protection equipment

See section 8 for more information

Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

Always wear recommended Personal Protective Equipment. See section 8 for more information. Do not get in eyes, on skin, or on clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use adequate ventilation and/or wear appropriate respirator.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers. Store in accordance with local regulations.

Specific end use(s)

For research use only.

SECTION 8: Exposure controls and personal protection

Control parameters

Chemical Name	Australia STEL	Australia	Australia - Skin Absorbers	Australia - OES - Peak
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetrameth	No data	No data	No data	No data

y(lbutyl)phenyl]-.omega.-hydr oxy- 9002-93-1				
Ethyl alcohol 64-17-5	No data	1000 ppm 1880 mg/m ³	No data	No data

Chemical Name	New Zealand - Workplace Exposure Limits	New Zealand TWA	New Zealand STEL	New Zealand Ceiling Limits
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetrameth ylbutyl)phenyl]-.omega.-hydr oxy- 9002-93-1	No data	No data	No data	No data
Ethyl alcohol 64-17-5	No data	1000 ppm 1880 mg/m ³	No data	No data

Chemical Name	China OEL (MAC)	China - Skin Absorbers	Hong Kong OEL
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydro xy- 9002-93-1	No data	No data	No data
Ethyl alcohol 64-17-5	No data	No data	TWA: 1000 ppm TWA: 1880 mg/m ³

Chemical Name	Korea OEL (CEILING)	Korea OEL (TWA)	Korea OEL (STEL)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydro xy- 9002-93-1	No data	No data	No data
Ethyl alcohol 64-17-5	No data	1000 ppm	No data

Chemical Name	Korea OEL (Skin Notations)	Korea PEL (STELs)	Korea PEL (TWAs)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydro xy- 9002-93-1	No data	No data	No data
Ethyl alcohol 64-17-5	No data	No data	No data

Chemical Name	Korea OEL (Carcinogens)	Korea OEL (Germ Cell Mutagenicity)	Korea OEL (Reproductive Toxicity)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydro xy- 9002-93-1	No data	No data	No data
Ethyl alcohol 64-17-5	1A - Known Human Carcinogen based on human evidence	No data	No data

Chemical Name	Taiwan OEL - TWA	Taiwan OEL (Skin notations, Carcinogens)	Taiwan OEL (STELs)	Taiwan OEL (Ceilings)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetrameth ylbutyl)phenyl]-.omega.-hydr oxy- 9002-93-1	No data	No data	No data	No data
Ethyl alcohol 64-17-5	1000 ppm 1880 mg/m ³	No data	1000 ppm STEL; 1880 mg/m ³ STEL	No data

Chemical Name	Singapore OEL (PEL)	Singapore OEL (STEL)	Malaysia - OEL (TWA)	Malaysia - OEL (Ceilings)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetrameth ylbutyl)phenyl]-.omega.-hydr oxy-	No data	No data	No data	No data

9002-93-1				
Ethyl alcohol 64-17-5	1000 ppm 1880 mg/m ³	No data	1000 ppm 1880 mg/m ³	No data

Chemical Name	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydro xy- 9002-93-1	No data	No data
Ethyl alcohol 64-17-5	No data	1000 ppm

Engineering Measures

Ensure adequate ventilation, especially in confined areas

Exposure controls

Personal Protective Equipment

Use PPE that has been certified by the Korea Occupational Safety and Health Agency.

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 laboratory coat for body protection

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Colour	No data	
Odour	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
pH	No data	
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient: n-octanol/water	No data	
Vapour Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapour density	No data	
Explosive properties	No data	
Oxidising properties	No data	
Particle characteristics	No data	

Other information

Information with regards to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 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 known hazardous decomposition products.

SECTION 11: Toxicological information

Information on toxicological effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl phenyl)]-.omega.-hydroxy-	= 1800 mg/kg (Rat)	No data available	No data available
Ethyl alcohol	= 7060 mg/kg (Rat)	No data available	=116.9mg/L(Rat) =133.8mg/L(Rat)

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 Causes serious eye damage

Respiratory or skin sensitisation 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 May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility

Aspiration Hazard Data are conclusive but insufficient for classification

SECTION 12: Ecological information

Toxicity

Hazardous to the Aquatic Environment.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	No data available	No data available	No data available	No data available	No data available
Ethyl alcohol	No data available	Daphnia magna EC50=2 mg/L (48 h) Daphnia magna LC509268 - 14221 mg/L (48 h)	No data available	No data available	logPow-0.35

Mobility in soil No information available

Persistence and degradability No information available

Bioaccumulative potential No information available

Results of PBT and vPvB assessment

No information available

Other adverse effects

Contains a known or suspected endocrine disruptor

SECTION 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 accordance with 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. Do not empty into drains. Do not dispose of waste into sewer.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable

Marine pollutant

Yes

Special precautions for user

Not Applicable

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 15: Regulatory information**International Inventories**

Chemical Name	US TSCA	Canada (DSL)	NDSL	PICCS (Philippines)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Listed	Listed	-	Listed
Ethyl alcohol	Listed	Listed	-	Listed

Chemical Name	ENCS (Japan)	IECSC - China Inventory of Existing Chemical Substances	South Korea (KECL)	AICS (Australia)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	-	Listed	Listed	Listed
Ethyl alcohol	Listed	Listed	Listed	Listed

Chemical Name	NZIoC - New Zealand Inventory of Chemicals	EINECS (European Union)	ELINCS (European List of Notified Chemical Substances)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]- .omega.-hydroxy-	Listed	-	-
Ethyl alcohol	Listed	Listed	-

UN (United Nations) - Chemical Weapons Convention (CWC)

Not Applicable

Korea**Occupational Safety and Health Act**

Chemical Name	ISHA - Substances to be controlled - Metals	ISHA - Substances to be controlled - Organic Substances	ISHA - Substances to be controlled - Acids and bases	ISHA - Substances to be controlled - Gas-phase substances
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Chemical Name	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Special management materials
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]- .omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable	Not Applicable

Chemical Name	Harmful agents subject to work environment	Harmful agents subject to work environment	Harmful agents subject to work environment	Harmful agents subject to work environment	Harmful agents subject to work environment

	monitoring - Organic compounds	monitoring - Metals	monitoring - Acids and alkalis	monitoring - Gas-phase substances	monitoring - Dusts
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Chemical Name	Harmful agents subject to workers requiring health examination - Organic compounds	Harmful agents subject to workers requiring health examination - Metals	Harmful agents subject to workers requiring health examination - Acids and alkalis	Harmful agents subject to workers requiring health examination - Gas-phase substances	Harmful agents subject to workers requiring health examination - Dusts
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Chemical Name	Korea OEL (CEILING)	Korea OEL (TWA)	Korea OEL (STEL)	Korea OEL (Skin Notations)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Applicable	Not Applicable	Not Applicable

Chemical Name	Korea OEL (Carcinogens)	Korea OEL (Germ Cell Mutagenicity)	Korea OEL (Reproductive Toxicity)	Korea PEL (STELs)	Korea PEL (TWAs)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Chemical Name	ISHA - Harmful or Dangerous Substances Subject to Submission of Process Safety Reports - Storage	ISHA - Harmful or Dangerous Substances Subject to Submission of Process Safety Reports - Manufacturing or Handling
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable

Chemicals Control Act

Chemical Name	Toxic substance	Prohibited substance	Restricted substance
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable	Not Applicable

Chemical Name	Threshold Values (%)	Quantity limit for manufacture/use	Quantity limit for custody/storage
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable	Not Applicable

Chemical Name	Pollutant Release and Transfer Registers (PRTR) - Group I	Pollutant Release and Transfer Registers (PRTR) - Group II
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable

Ethyl alcohol	Not Applicable	Not Applicable
---------------	----------------	----------------

Act on Registration, Evaluation, etc. of Chemicals (K-REACH)

Chemical Name	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance	Existing substances subject to registration	Substances Exempted from Registration or Notification - Annex 1	Substances Exempted from Registration or Notification - Annex 2
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ethyl alcohol	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Safety Control of Dangerous Substances Act

Chemical Name	Safety Control of Dangerous Substances Act
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable
Ethyl alcohol	400 L (listed under Alcohol including denatured) 400 L (limited to saturated monohydric alcohols (including denatured alcohols) having 1 to 3 carbon atoms constituting one molecule, except an aqueous solution containing less than 60% and the amount of flammable liquid is less than 60% and the flash point and combustion point exceeds the flash point and combustion point of 60% aqueous solution of ethyl alcohol)

Wastes Control Act

Chemical Name	Wastes Control Act
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Applicable
Ethyl alcohol	Not Applicable

Singapore

Chemical Name	Singapore - Poisons List
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Listed
Ethyl alcohol	Not Listed

Taiwan

Chemical Name	Toxic Chemical Substances Control Act - Classification and Control Levels	Toxic Chemical Substances Control Act - Threshold Regulated Quantities	Hazard Prevention Standard for Specified Chemical Substances
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Not Listed	Not Listed	Not Listed
Ethyl alcohol	Not Listed	Not Listed	Not Listed

China

Chemical Name	China - Catalogue of Occupational Hazard Factors	China - Dangerous Goods List	China - Catalog of Hypertoxic Chemicals	China - List of Dangerous Chemicals for Priority Management

Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Not Listed	Not Listed	Not Listed	Not Listed
Ethyl alcohol	Not Listed	Present Present (with >70% alcohol by volume; with >24% but not >70% alcohol by volume)	Not Listed	Not Listed

SECTION 16: Other information

Reason for revision SDS sections updated.
Revision number 3
Revision date 01-Jun-2022
Date of first issue 02-Feb-2017

For research use only.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labour
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name Streptavidin-HRP

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

**24 hour Emergency Response for Hazardous Materials
[or Dangerous Goods] Incident. Spill, Leak, Fire,
Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

For research use only

GHS Classification

Signal Word
None

Hazard pictograms
None

Health hazards
Not Hazardous

Physical 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

HMIS

Health	0
Flammability	0
Reactivity	0

SECTION 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.

SECTION 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.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture

Not known

Advice for firefighters

Standard procedure for chemical fires.

SECTION 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.

SECTION 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 research use only.

SECTION 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 required.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Color	No data	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient: n-octanol/water	No data	
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information

Information with regard to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 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.

SECTION 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

SECTION 12: Ecological information

Toxicity

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

Not Applicable.

Other adverse effects No information available.

SECTION 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 accordance with 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.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable

Marine pollutant

No

Special precautions for user

Not Applicable

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 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

SECTION 16: Other information

Reason for revision	SDS sections updated.
Revision number	5
Revision date	23-Jul-2021

For research use only.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name Cytochrome c Standard

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

**24 hour Emergency Response for Hazardous Materials
[or Dangerous Goods] Incident. Spill, Leak, Fire,
Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

For research use only. Not for use in diagnostic procedures

SECTION 2: Hazards identification

GHS Classification

Signal Word
None

Hazard pictograms
None

Health hazards
Not Hazardous

Physical 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

HMIS

Health	0
Flammability	0
Reactivity	0

SECTION 3: Composition/information on ingredients

Chemical Name	CAS No.	Common name	EC No.	Weight-%
SODIUM AZIDE	26628-22-8	Not applicable	247-852-1	0.1-1.0

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

SECTION 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.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture

Not known

Hazardous Combustion Products	No data available.
--------------------------------------	--------------------

Advice for firefighters

Standard procedure for chemical fires.

SECTION 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. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

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 research use only.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure Limits

Contains no substances with occupational exposure limit values.

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
SODIUM AZIDE	None	None	None	None

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
SODIUM AZIDE	None	0.29 mg/m ³ 0.11 ppm	None

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 required. Avoid discharge into drains and waterways whenever possible.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Color	No information available	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
pH	No data	
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient:	No data	
n-octanol/water		
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information

Information with regard to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 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.

SECTION 11: Toxicological information

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
SODIUM AZIDE	= 27 mg/kg (Rat)	=20 mg/kg(Rat)	0.054 - 0.52mg/L(Rat)

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/irritationData 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

SECTION 12: Ecological information

Toxicity

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

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
SODIUM AZIDE	No data available	No data available	LC50: = 5.46 mg/L, 96h flow-through (Pimephales promelas) LC50: = 0.7 mg/L, 96h (Lepomis macrochirus) LC50: = 0.8 mg/L, 96h (Oncorhynchus mykiss)	No data available	No data available

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.

SECTION 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 accordance with 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.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID 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

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 15: Regulatory information

Component	US TSCA
SODIUM AZIDE 26628-22-8 (0.1-1.0)	Listed

US Federal Regulations

SARA 313

This product is not regulated by SARA.

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>SARA 313 - Threshold Values</u>
SODIUM AZIDE	26628-22-8	0.1-1.0	1.0

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

This product does not contain HAPs

US State Regulations

Chemical Name	Massachusetts - RTK (Right-to-Know)	New Jersey - RTK (Right-to-Know)	Pennsylvania - RTK (Right-to-Know)
SODIUM AZIDE	Listed	Listed	Listed

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

<u>Chemical Name</u>	<u>CAS No.</u>	Brazil - National Agency for Sanitary Surveillance (ANVISA)	Brazil - National List of Carcinogen Agents to Humans (LINACH)
SODIUM AZIDE	26628-22-8	Not Listed	Not Listed

SECTION 16: Other information

Reason for revision	SDS sections updated.
Revision number	3
Revision date	16-Nov-2024

For research use only. Not for use in diagnostic procedures.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name

Substrate Solution

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

**24 hour Emergency Response for Hazardous Materials
[or Dangerous Goods] Incident. Spill, Leak, Fire,
Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

For research use only. Not for use in diagnostic procedures

SECTION 2: Hazards identification

GHS Classification

Signal Word

None

Hazard pictograms

None

Health hazards

Not Hazardous

Physical 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

HMIS

Health	0
Flammability	0
Reactivity	0

SECTION 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.

SECTION 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.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture

Not known

Hazardous Combustion Products	No data available.
--------------------------------------	--------------------

Advice for firefighters

Standard procedure for chemical fires.

SECTION 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. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

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 research use only.

SECTION 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 required. Avoid discharge into drains and waterways whenever possible.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Color	No data	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient: n-octanol/water	No data	
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information

Information with regard to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 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.

SECTION 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

SECTION 12: Ecological information

Toxicity

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.

SECTION 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 accordance with 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.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID 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

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 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

SECTION 16: Other information

Reason for revision	SDS sections updated.
Revision number	11
Revision date	12-Dec-2023

For research use only. Not for use in diagnostic procedures.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product name Wash Buffer 20X

Company/undertaking identification

Novus Biologicals, LLC
10771 E Easter Ave
Centennial, CO
1-888-506-6887

**24 hour Emergency Response for Hazardous Materials
[or Dangerous Goods] Incident. Spill, Leak, Fire,
Exposure, or Accident. Call CHEMTREC**

Country Specific Emergency Number (if available):
Within the USA + Canada: 1-888-506-6887

For research use only. Not for use in diagnostic procedures

SECTION 2: Hazards identification

GHS Classification**Signal Word**

None

Hazard pictograms

None

Health hazards

Not Hazardous

Physical 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

HMIS

Health	0
Flammability	0
Reactivity	0

SECTION 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.

SECTION 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.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media
Unsuitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.
No information available.

Special hazards arising from the substance or mixture

Not known

Advice for firefighters

Standard procedure for chemical fires.

SECTION 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.

SECTION 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 research use only.

SECTION 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 required.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	liquid	
Color	No data	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
pH	No data	
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient:	No data	
n-octanol/water		
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information**Information with regard to physical hazard classes**

No information available

Other safety characteristics

No information available

SECTION 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.

SECTION 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

SECTION 12: Ecological information

Toxicity

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.

SECTION 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.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable

Marine pollutant

No

Environmental hazards

Not Hazardous

Special precautions for user

Not Applicable

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 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

SECTION 16: Other information

Reason for revision	SDS sections updated.
Revision number	8
Revision date	28-Apr-2023

For research use only. Not for use in diagnostic procedures.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet