



MATERIAL SAFETY DATA SHEET (MSDS)

Kit Name: VitroView™ NADH-TR Histochemistry Stain Kit
SKU #: VB-3029

Revision Date: 06-16-2024

Components:

VB-3029 -1	NADH Powder
VB-3029-2	NBT Solution
VB-3029-3	Destaining Solution A
VB-3029-4	Destaining Solution B
VB-3029-5	Destaining Solution C
VB-3029-6	Aqueous mounting medium

VB-3029-1 NADH Powder MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name NADH Powder
Product number VB-3029-1
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	CAS #	Concentration (% w/w)
NADH	606-68-8	<=100

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

GHS label elements

Signal Word : Warning
Hazard Statements : May form combustible dust concentrations in air.

Other hazards

None known.

4. First Aid Measures

General advice : Do not leave the victim unattended.
If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
In case of skin contact : If on skin, rinse well with water.
In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed : Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Rinse mouth with water.
Most important symptoms and effects, both acute and delayed : None known.
Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

5. Fire Fighting Measures

Suitable extinguishing media : Carbon dioxide (CO2)
Dry powder
Water spray jet
Foam
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during fire fighting : No information available.

Hazardous combustion products : In case of fire hazardous decomposition products may be produced such as: Oxides of phosphorus Sodium oxides Nitrogen oxides (NOx) Carbon oxides

Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures : Avoid dust formation.

Environmental precautions : Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust. Sweep up and shovel.
Keep in suitable, closed containers for disposal.

7. Handling and Storage

Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Conditions for safe storage : Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : See label, package insert or internal guidelines

Materials to avoid : No materials to be especially mentioned.

Storage temperature : Protected from heat and light

Further information on storage stability : No decomposition if stored and applied as directed.

Packaging material : Suitable material: Stainless steel, Polyethylene bag in metal drum, glass

8. Exposure Controls, Personal Protection

Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required

Hand protection
In case of contact through splashing:
Material : Nitrile rubber
Break through time : > 30 min
Glove thickness : > 0.11 mm
In case of full contact:
Material : butyl-rubber
Break through time : > 480 min
Glove thickness : > 0.4 mm

Remarks : Wear appropriate protective gloves to prevent skin contact. Replace torn or punctured gloves promptly.

Eye protection : Safety glasses

Skin and body protection : Protective suit

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

9. Physical and Chemical Properties

Appearance : Crystalline powder

Color : light yellow

Odor : odorless

Odor Threshold : Not applicable

pH : Not applicable
 Melting point/range : (1,016 hPa)
 Method: OECD Test Guideline 102
 GLP: yes
 Decomposition
 Boiling point/boiling range : (1,013 hPa)
 Method: OECD Test Guideline 103
 GLP: yes
 Decomposition
 Flash point : Not applicable
 Evaporation rate : No data available
 Flammability (solid, gas) : The product is not flammable.
 Method: Regulation (EC) No. 440/2008, Annex, A.10
 GLP: yes
 Self-ignition : No data available
 Upper explosion limit / Upper flammability limit : No data available
 Lower explosion limit / Lower flammability limit : No data available
 Vapor pressure : < 0.0073 hPa (68 °F / 20 °C)
 Method: OECD Test Guideline 104
 GLP: yes

 < 0.0073 hPa (77 °F / 25 °C)
 Method: OECD Test Guideline 104
 GLP: yes

 < 0.0073 hPa (122 °F / 50 °C)
 Method: OECD Test Guideline 104
 GLP: yes
 Relative vapor density : Not applicable
 Relative density : 1.955 (68 °F / 20 °C)
 Reference substance: Water
 Method: OECD Test Guideline 109
 GLP: yes
 Density : 1.955 g/cm³ (68 °F / 20 °C)
 Method: OECD Test Guideline 109
 GLP: yes
 Solubility(ies)
 Water solubility : \geq 712 g/l slightly soluble (72.5 °F / 22.5 °C)
 pH: 7
 Method: OECD Test Guideline 105
 GLP: yes
 Solubility in other solvents : No data available
 Partition coefficient: n octanol/water : log Pow: < -1.96
 pH: 7
 Method: OECD Test Guideline 107
 GLP: yes
 Autoignition temperature : No data available
 Decomposition temperature : 284 °F / 140 °C
 Viscosity
 Viscosity, dynamic : Not applicable
 Viscosity, kinematic : Not applicable
 Explosive properties : Not explosive Expert judgment
 Oxidizing properties : The substance or mixture is not classified as oxidizing. Expert judgment
 Surface tension : 69.22 mN/m, 68 °F / 20 °C, OECD Test Guideline 115, GLP: yes
 Molecular weight : 709.42 g/mol
 Particle Size Distribution : D10 = 7.7 μ m
 D50 = 38.7 μ m
 D90 = 130.6 μ m
 Type of distribution: volume distribution
 Measurement method: OECD Test Guideline 110
 Measurement technique: laser diffraction

10. Stability and Reactivity

Reactivity :	Exothermic reaction
Chemical stability :	Stable under normal conditions.
Possibility of hazardous reactions :	Potential for exothermic hazard Risk of dust explosion. Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid :	> 80 °C Exposure to moisture.
Incompatible materials :	Strong oxidizing agents
Hazardous decomposition products :	In case of fire hazardous decomposition products may be produced such as: Carbon oxides Nitrogen oxides (NOx) Oxides of phosphorus Sodium oxides

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Components:

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D ribofuranosylnicotinamide, sodium salt (1:2):
Acute oral toxicity : (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 423
GLP: yes

Skin corrosion/irritation

Not classified based on available information.

Components:

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D ribofuranosylnicotinamide, sodium salt (1:2):
Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439
Result : No skin irritation
GLP : yes

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D ribofuranosylnicotinamide, sodium salt (1:2):
Species : Bovine cornea
Result : No eye irritation
Exposure time : 4 h
Method : OECD Test Guideline 437
GLP : yes

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D ribofuranosylnicotinamide, sodium salt (1:2):
Test Type : KeratinoSens assay
Assessment : Does not cause skin sensitization.
Method : OECD Test Guideline 442D
GLP : yes
Test Type : Direct Peptide Reactivity Assay (DPRA)

Method : OECD Test Guideline 442C
GLP: yes

Germ cell mutagenicity

Not classified based on available information.

Components:

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D ribofuranosylnicotinamide, sodium salt (1:2):

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation

Method: Mutagenicity (Salmonella typhimurium - reverse mu tation assay)
Result: negative
GLP: yes

Test Type: Microbial mutagenesis assay (Ames test)
Test system: Escherichia coli
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Result: negative
GLP: yes

Carcinogenicity

Not classified based on available information.

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

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

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

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

12. Ecological Information

Ecotoxicity

Components:

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D ribofuranosylnicotinamide, sodium salt (1:2):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
End point: Growth rate Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201

GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity:

This product has no known ecotoxicological effects.
Remarks: Display primary data instead of "Not classified based on available information.

Chronic aquatic toxicity:

This product has no known ecotoxicological effects.
Remarks: Display primary data instead of "Not classified based on available information.

Toxicity Data on Soil:

Not expected to adsorb on soil. Remarks: Display primary data instead of "Not classified based on available information.

Other organisms relevant to the environment :

No data available
Remarks: Display primary data instead of Not classified based on available information.

Persistence and degradability

Components:

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D ribofuranosylnicotinamide, sodium salt (1:2):

Biodegradability

aerobic
Inoculum: activated sludge, non-adapted
Concentration: 69 mg/l
Result: Readily biodegradable.
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

Bioaccumulative potential

Components: :

Dihyronicotinamide-adenine dinucleotide, disodium salt:

Partition coefficient: n octanol/water:

log Pow: < -1.96
pH: 7
Method: OECD Test Guideline 107
GLP: yes

Mobility in soil

No data available :

Other adverse effects

Product:

Ozone-Depletion Potential :

Regulation: 40 CFR Protection of Environment; Part 82 protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

13. Disposal Information

Disposal methods

Waste from residues :

Can be disposed as waste water, when in compliance with local regulations.

Contaminated packaging :

Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport Information

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good IMDG-Code Not regulated as a dangerous good

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

Not applicable

Domestic regulation

49 CFR

Not regulated as a dangerous good

Special precautions for user

Remarks : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

15. Regulatory Information

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

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

SARA 311/312 Hazards : Combustible dust

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

Clean Air Act :

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

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

Pennsylvania Right To Know

Adenosine 5'-(trihydrogen diphosphate), P'.->.5'-ester with 1,4-dihydro-1-.beta.-D-ribofuranosylnicotinamide, sodium salt (1:2)

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals 606-68-8

The ingredients of this product are reported in the following inventories:

AiIC On the inventory, or in compliance with the inventory

DSL All components of this product are on the Canadian DSL

NZIoC On the inventory, or in compliance with the inventory

ENCS Not in compliance with the inventory

ISHL	Not in compliance with the inventory
KECI	Not in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	Not in compliance with the inventory
TCSI	On the inventory, or in compliance with the inventory
TSCA	All substances listed as active on the TSCA inventory
TECI	Not in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements

16. Other Information

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

Abbreviations and acronyms:

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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VB-3029-2 NBT Solution MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name NBT Solution
Product number VB-3029-2
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Chemical Description: An aqueous solution of ferric chloride and hydrochloric acid.

Name	CAS #.	Weight %
NBT	298-83-9	<0.05

3. Hazards Identification

Acute oral toxicity Category 4
Acute dermal toxicity Category 4
Acute Inhalation Toxicity - Dusts and Mists Category 4
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2
Specific target organ toxicity (single exposure) Category 2 Category 3
Target Organs - Optic nerve, Respiratory system, Central nervous system (CNS).

Label Elements

Signal Word

Warning

Hazard Statements

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
May cause damage to organs
Harmful if swallowed, in contact with skin or if inhaled

Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray

Response

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

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

Skin

IF ON SKIN: Wash with plenty of soap and water Call a POISON CENTER or doctor/physician if you feel unwell If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash before reuse

Eyes

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

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth

Storage

Store locked up Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant Hazards not otherwise classified (HNOC)

Other hazards

Poison, may be fatal or cause blindness if swallowed. Vapor harmful. CANNOT BE MADE NON-POISONOUS. WARNING. Reproductive Harm - <https://www.p65warnings.ca.gov/>.

4. First Aid Measures

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

5. Fire Fighting Measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam.
Unsuitable Extinguishing Media	No information available
Flash Point	Not applicable
Method	No information available
Autoignition Temperature	Not applicable
Explosion Limits	Not applicable
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical	Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. None reasonably foreseeable.
Hazardous Combustion Products	Nitrogen oxides (NO _x). Carbon monoxide (CO). Carbon dioxide (CO ₂). Chlorine. Hydrogen chloride gas.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.
Environmental Precautions	Should not be released into the environment.
Methods for Containment and Clean Up	Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Handling	Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in freezer. Incompatible Materials. Strong oxidizing agents.

8. Exposure Controls / Personal Protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Methyl alcohol	TWA: 200 ppm	(Vacated) TWA: 200 ppm	IDLH: 6000 ppm	TWA: 200 ppm
	STEL: 250 ppm	(Vacated) TWA: 260 mg/m ³	TWA: 200 ppm	STEL: 250 ppm
	Skin	(Vacated) STEL: 250 ppm	TWA: 260 mg/m ³	
		(Vacated) STEL: 325 mg/m ³	STEL: 250 ppm	
		Skin	STEL: 325 mg/m ³	
		TWA: 200 ppm		
		TWA: 260 mg/m ³		

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

9. Physical and Chemical Properties
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Appearance Form:	Yellow
Odor	odorless
Odor Threshold	Not applicable
pH	No data available
Melting point/freezing point	170 °C / 338 °F
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Density	No data available
Relative density	No data available
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition	No data available temperature
Decomposition temperature	>170 °C
Viscosity	No data available
Explosive properties	No data available
Molecular Formula	C40 H30 Cl2 N10 O6 . H2 O . C H4 O
Molecular Weight	867.7

10. Stability and Reactivity Data
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Reactive Hazard	None known, based on information available
Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid dust formation. Incompatible products. Excess heat.
Incompatible Materials	Strong oxidizing agents

Hazardous Decomposition Products Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2), Chlorine, Hydrogen chloride gas

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

11. Toxicological Information

Acute Toxicity

Product Information

Oral LD50 Category 4. ATE = 300 - 2000 mg/kg. Category 3. ATE = 50 - 300 mg/kg.
 Dermal LD50 Category 4. ATE = 1000 - 2000 mg/kg. Category 3. ATE = 200 - 1000 mg/kg.
 Mist LC50 Category 4. ATE = 1 - 5 mg/l. Category 3. ATE = 0.5 - 1 mg/l

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
NBT	2 g/kg (Mouse)	Not listed	Not listed

Toxicologically Synergistic

Products

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

Irritation Irritating to eyes, respiratory system and skin

Sensitization No information available

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

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
NBT	298-83-9	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available

STOT - single exposure

Optic nerve Respiratory system Central nervous system (CNS)

STOT - repeated exposure

None known

Aspiration hazard

No information available.

Symptoms / effects, both acute and delayed

No information available

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

12. Ecological Information

Ecotoxicity

Do not empty into drains. Do not flush into surface water or sanitary sewer system

Persistence and Degradability Persistence is unlikely

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility

13. Disposal Considerations

Waste Disposal Methods

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

14. Transport Information

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

15. Regulatory Information

SARA 302 Components

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

SARA 313 Components

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

Massachusetts Right To Know Components

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

16. Other Information

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Abbreviations and acronyms:

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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VB-3029-3 Destaining Solution A MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Destaining Solution A
Product number VB-3029-3
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 29850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Composition	CAS #	Weight (%)
Acetone	67-64-1	>20<40

3. Hazards Identification

Classification

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

Flammable liquids Category 2
Serious Eye Damage/Eye Irritation Category 2
Specific target organ toxicity (single exposure) Category 3
Target Organs - Central nervous system (CNS).
Specific target organ toxicity - (repeated exposure) Target Organs - Kidney, Liver, spleen, Blood. Label
Elements Signal Word Danger Hazard Statements Category 2

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention

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

Response

Get medical attention/advice if you feel unwell

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

Skin

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

Eyes

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

Fire

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

Storage

Store in a well-ventilated place. Keep container tightly closed Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant Hazards not otherwise classified (HNOC)
Repeated exposure may cause skin dryness or cracking

4. First Aid Measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms and effects	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: May cause pulmonary edema
Notes to Physician	Treat symptomatically

5. Fire Fighting Measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media	Water may be ineffective
Flash Point	-20 °C / -4 °F
Method	CC (closed cup)
Autoignition Temperature	465 °C / 869 °F
Explosion Limits	
Upper	12.8 vol %
Lower	2.5 vol %
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

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

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Formaldehyde. Methanol.

Protective Equipment and Precautions for Firefighters

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

NFPA

Health	Flammability	Instability	Physical hazards
2	3	0	N/A

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
-----------------------------	--

Environmental Precautions Should not be released into the environment.
Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and Storage

Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges

Storage Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Strong reducing agents. Strong bases. Peroxides. Halogenated compounds. Alkali metals. Amines.

8. Exposure Controls / Personal Protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acetone	TWA: 250 ppm STEL: 500 ppm	(Vacated) TWA: 750 ppm (Vacated) TWA: 1800 mg/m3 (Vacated) STEL: 2400 mg/m3 TWA: 1000 ppm TWA: 2400 mg/m3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m3	TWA: 500 ppm STEL: 750 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
 OSHA - Occupational Safety and Health Administration
 NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

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

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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

9. Physical and Chemical Properties

Physical State:	liquid
Appearance:	Colorless
Odor:	sweet
Odor Threshold	19.8 ppm
pH:	7
Melting Point/Range:	-95 °C / -139 °F
Boiling Point/Range:	56 °C / 132.8 °F
Flash Point	
Method	CC (closed cup)
Evaporation Rate	5.6 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable

Flamability or explosive limits	
Upper	12.8 vol %
Lower	2.5 vol %
Vapor Pressure	247 mbar @ 20 °C
Vapor Density	2.0
Specific Gravity	0.790
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	465 °C / 869 °F
Decomposition Temperature	> 4°C
Viscosity	0.32 mPa.s @ 20 °C
Molecular Formula	C3 H6 O
Molecular Weight	58.08
Refractive index	1.358 - 1.359

10. Stability and Reactivity Data

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Strong reducing agents, Strong bases, Peroxides, Halogenated compounds, Alkali metals, Amines
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Formaldehyde, Methanol
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information

Acute Toxicity						
Product Information						
Component Information						
Component	LD50 Oral	LD50 Dermal		LC50 Inhalation		
Acetone	5800 mg/kg (Rat)	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)		76 mg/l, 4 h, (rat)		
Toxicologically Synergistic Products						
Carbon tetrachloride; Chloroform; Trichloroethylene; Bromodichloromethane; Dibromochloromethane; N-nitrosodimethylamine; 1,1,2-Trichloroethane; Styrene; Acetonitrile, 2,5-Hexanedione; Ethanol; 1,2-Dichlorobenzene						
Delayed and immediate effects as well as chronic effects from short and long-term exposure						
Irritation						
Irritating to eyes						
Sensitization						
No information available						
Carcinogenicity						
The table below indicates whether each agency has listed any ingredient as a carcinogen.						
Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Acetone	67-64-1	Not listed	Not listed	Not listed	Not listed	Not listed
Mutagenic Effects						
No information available						
Reproductive Effects						
No information available.						
Developmental Effects						
No information available.						
Teratogenicity						
No information available.						
STOT - single exposure						
Central nervous system (CNS)						
STOT - repeated exposure						
Kidney Liver spleen Blood						
Aspiration hazard						
No information available						
Symptoms / effects, both acute and delayed						
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; May cause pulmonary edema						
Endocrine Disruptor Information						
No information available						
Other Adverse Effects						
The toxicological properties have not been fully investigated.						

12. Ecological Information

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Acetone	NOEC = 430 mg/l (algae; 96 h)	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 14500 mg/L/15 min	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h

Persistence and Degradability
Bioaccumulation/ Accumulation
Mobility

Persistence is unlikely based on information available.
 No information available.
 Will likely be mobile in the environment due to its volatility.

Component	log Pow
Acetone	-0.24

13. Disposal Considerations

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

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Acetone - 67-64-1	U002	

14. Transport Information

DOT

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

TDG

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

IATA

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

15. Regulatory Information

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition) List of dangerous goods GB 12268 2012									
Acetone	X									X
TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL	
X	X	200-662-2	X	X	X	X	X	X	KE-29367	

National Regulations

16. Other Information

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

Abbreviations and acronyms:

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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VB-3029-4 Destaining Solution B MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Destaining Solution B
Product number VB-3029-4
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 29850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Composition	CAS #	Weight (%)
Acetone	67-64-1	>50<70

3. Hazards Identification

Classification

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

Flammable liquids Category 2
Serious Eye Damage/Eye Irritation Category 2
Specific target organ toxicity (single exposure) Category 3
Target Organs - Central nervous system (CNS).
Specific target organ toxicity - (repeated exposure) Target Organs - Kidney, Liver, spleen, Blood. Label
Elements Signal Word Danger Hazard Statements Category 2

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention

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

Response

Get medical attention/advice if you feel unwell

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

Skin

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

Eyes

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

Fire

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

Storage

Store in a well-ventilated place. Keep container tightly closed Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant Hazards not otherwise classified (HNOC) Repeated exposure may cause skin dryness or cracking

4. First Aid Measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms and effects	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: May cause pulmonary edema
Notes to Physician	Treat symptomatically

5. Fire Fighting Measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media	Water may be ineffective
Flash Point	-20 °C / -4 °F
Method	CC (closed cup)
Autoignition Temperature	465 °C / 869 °F
Explosion Limits	
Upper	12.8 vol %
Lower	2.5 vol %
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

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

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Formaldehyde. Methanol.

Protective Equipment and Precautions for Firefighters

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

NFPA

Health	Flammability	Instability	Physical hazards
2	3	0	N/A

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
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Environmental Precautions Should not be released into the environment.
Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and Storage

Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges

Storage Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Strong reducing agents. Strong bases. Peroxides. Halogenated compounds. Alkali metals. Amines.

8. Exposure Controls / Personal Protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acetone	TWA: 250 ppm STEL: 500 ppm	(Vacated) TWA: 750 ppm (Vacated) TWA: 1800 mg/m3 (Vacated) STEL: 2400 mg/m3 TWA: 1000 ppm TWA: 2400 mg/m3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m3	TWA: 500 ppm STEL: 750 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
 OSHA - Occupational Safety and Health Administration
 NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

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

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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

9. Physical and Chemical Properties

Physical State:	liquid
Appearance:	Colorless
Odor:	sweet
Odor Threshold	19.8 ppm
pH:	7
Melting Point/Range:	-95 °C / -139 °F
Boiling Point/Range:	56 °C / 132.8 °F
Flash Point	
Method	CC (closed cup)
Evaporation Rate	5.6 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable

Flamability or explosive limits	
Upper	12.8 vol %
Lower	2.5 vol %
Vapor Pressure	247 mbar @ 20 °C
Vapor Density	2.0
Specific Gravity	0.790
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	465 °C / 869 °F
Decomposition Temperature	> 4°C
Viscosity	0.32 mPa.s @ 20 °C
Molecular Formula	C3 H6 O
Molecular Weight	58.08
Refractive index	1.358 - 1.359

10. Stability and Reactivity Data

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Strong reducing agents, Strong bases, Peroxides, Halogenated compounds, Alkali metals, Amines
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Formaldehyde, Methanol
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information

Acute Toxicity						
Product Information						
Component Information						
Component	LD50 Oral	LD50 Dermal		LC50 Inhalation		
Acetone	5800 mg/kg (Rat)	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)		76 mg/l, 4 h, (rat)		
Toxicologically Synergistic Products						
Carbon tetrachloride; Chloroform; Trichloroethylene; Bromodichloromethane; Dibromochloromethane; N-nitrosodimethylamine; 1,1,2-Trichloroethane; Styrene; Acetonitrile, 2,5-Hexanedione; Ethanol; 1,2-Dichlorobenzene						
Delayed and immediate effects as well as chronic effects from short and long-term exposure						
Irritation						
Irritating to eyes						
Sensitization						
No information available						
Carcinogenicity						
The table below indicates whether each agency has listed any ingredient as a carcinogen.						
Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Acetone	67-64-1	Not listed	Not listed	Not listed	Not listed	Not listed
Mutagenic Effects						
No information available						
Reproductive Effects						
No information available.						
Developmental Effects						
No information available.						
Teratogenicity						
No information available.						
STOT - single exposure						
Central nervous system (CNS)						
STOT - repeated exposure						
Kidney Liver spleen Blood						
Aspiration hazard						
No information available						
Symptoms / effects, both acute and delayed						
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; May cause pulmonary edema						
Endocrine Disruptor Information						
No information available						
Other Adverse Effects						
The toxicological properties have not been fully investigated.						

12. Ecological Information

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Acetone	NOEC = 430 mg/l (algae; 96 h)	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 14500 mg/L/15 min	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h

Persistence and Degradability
Bioaccumulation/ Accumulation
Mobility

Persistence is unlikely based on information available.
 No information available.
 Will likely be mobile in the environment due to its volatility.

Component	log Pow
Acetone	-0.24

13. Disposal Considerations

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

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Acetone - 67-64-1	U002	

14. Transport Information

DOT

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

TDG

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

IATA

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

15. Regulatory Information

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition) List of dangerous goods GB 12268 2012									
Acetone	X									X
TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL	
X	X	200-662-2	X	X	X	X	X	X	KE-29367	

National Regulations

16. Other Information

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

Abbreviations and acronyms:

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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VB-3029-5 Destaining Solution C MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Destaining Solution C
Product number VB-3029-5
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 29850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Composition	CAS #	Weight (%)
Acetone	67-64-1	>80<100

3. Hazards Identification

Classification

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

Flammable liquids Category 2
Serious Eye Damage/Eye Irritation Category 2
Specific target organ toxicity (single exposure) Category 3
Target Organs - Central nervous system (CNS).
Specific target organ toxicity - (repeated exposure) Target Organs - Kidney, Liver, spleen, Blood. Label
Elements Signal Word Danger Hazard Statements Category 2

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention

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

Response

Get medical attention/advice if you feel unwell

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

Skin

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

Eyes

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

Fire

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

Storage

Store in a well-ventilated place. Keep container tightly closed Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant Hazards not otherwise classified (HNOC) Repeated exposure may cause skin dryness or cracking

4. First Aid Measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms and effects	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: May cause pulmonary edema
Notes to Physician	Treat symptomatically

5. Fire Fighting Measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media	Water may be ineffective
Flash Point	-20 °C / -4 °F
Method	CC (closed cup)
Autoignition Temperature	465 °C / 869 °F
Explosion Limits	
Upper	12.8 vol %
Lower	2.5 vol %
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

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

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Formaldehyde. Methanol.

Protective Equipment and Precautions for Firefighters

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

NFPA

Health	Flammability	Instability	Physical hazards
2	3	0	N/A

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
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Environmental Precautions Should not be released into the environment.
Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and Storage

Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges

Storage Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Strong reducing agents. Strong bases. Peroxides. Halogenated compounds. Alkali metals. Amines.

8. Exposure Controls / Personal Protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acetone	TWA: 250 ppm STEL: 500 ppm	(Vacated) TWA: 750 ppm (Vacated) TWA: 1800 mg/m3 (Vacated) STEL: 2400 mg/m3 TWA: 1000 ppm TWA: 2400 mg/m3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m3	TWA: 500 ppm STEL: 750 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
 OSHA - Occupational Safety and Health Administration
 NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

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

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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

9. Physical and Chemical Properties

Physical State:	liquid
Appearance:	Colorless
Odor:	sweet
Odor Threshold	19.8 ppm
pH:	7
Melting Point/Range:	-95 °C / -139 °F
Boiling Point/Range:	56 °C / 132.8 °F
Flash Point	
Method	CC (closed cup)
Evaporation Rate	5.6 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable

Flamability or explosive limits	
Upper	12.8 vol %
Lower	2.5 vol %
Vapor Pressure	247 mbar @ 20 °C
Vapor Density	2.0
Specific Gravity	0.790
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	465 °C / 869 °F
Decomposition Temperature	> 4°C
Viscosity	0.32 mPa.s @ 20 °C
Molecular Formula	C3 H6 O
Molecular Weight	58.08
Refractive index	1.358 - 1.359

10. Stability and Reactivity Data

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Strong reducing agents, Strong bases, Peroxides, Halogenated compounds, Alkali metals, Amines
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Formaldehyde, Methanol
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information

Acute Toxicity						
Product Information						
Component Information						
Component	LD50 Oral	LD50 Dermal		LC50 Inhalation		
Acetone	5800 mg/kg (Rat)	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)		76 mg/l, 4 h, (rat)		
Toxicologically Synergistic Products						
Carbon tetrachloride; Chloroform; Trichloroethylene; Bromodichloromethane; Dibromochloromethane; N-nitrosodimethylamine; 1,1,2-Trichloroethane; Styrene; Acetonitrile, 2,5-Hexanedione; Ethanol; 1,2-Dichlorobenzene						
Delayed and immediate effects as well as chronic effects from short and long-term exposure						
Irritation						
Irritating to eyes						
Sensitization						
No information available						
Carcinogenicity						
The table below indicates whether each agency has listed any ingredient as a carcinogen.						
Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Acetone	67-64-1	Not listed	Not listed	Not listed	Not listed	Not listed
Mutagenic Effects						
No information available						
Reproductive Effects						
No information available.						
Developmental Effects						
No information available.						
Teratogenicity						
No information available.						
STOT - single exposure						
Central nervous system (CNS)						
STOT - repeated exposure						
Kidney Liver spleen Blood						
Aspiration hazard						
No information available						
Symptoms / effects, both acute and delayed						
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; May cause pulmonary edema						
Endocrine Disruptor Information						
No information available						
Other Adverse Effects						
The toxicological properties have not been fully investigated.						

12. Ecological Information

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Acetone	NOEC = 430 mg/l (algae; 96 h)	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 14500 mg/L/15 min	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h

Persistence and Degradability
Bioaccumulation/ Accumulation
Mobility

Persistence is unlikely based on information available.
 No information available.
 Will likely be mobile in the environment due to its volatility.

Component	log Pow
Acetone	-0.24

13. Disposal Considerations

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

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Acetone - 67-64-1	U002	

14. Transport Information

DOT

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

TDG

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

IATA

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

15. Regulatory Information

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition) List of dangerous goods GB 12268 2012									
Acetone	X									X
TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL	
X	X	200-662-2	X	X	X	X	X	X	KE-29367	

National Regulations

16. Other Information

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

Abbreviations and acronyms:

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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VB-3029-6 Aqueous mounting medium MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Aqueous mounting medium
Product number VB-3029-6
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 29850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Composition	CAS #	Weight (%)
Fish skin gelatin	9000-70-8	>8<10

3. Hazards Identification

Classification of the substance or mixture

Appearance: clear, colorless liquid

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

Target Organs: none

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause respiratory of the digestive. Low hazard for usual industrial handling.

Chronic: No information found.

4. First Aid Measures

Description of first aid measures

Inhalation Move affected person to fresh air at once. Keep affected person warm and at rest. Get medical attention immediately.

Ingestion Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.

Skin contact Rinse immediately with plenty of water. Remove contaminated clothing. Get medical attention promptly if symptoms occur after washing.

Eye contact Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically and supportively.

5. Firefighting Measures

General Information

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

6. Accidental Release Measures

General Information

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks

Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation.

7. Handling and Storage

Handling

Wash thoroughly after handling. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated.

8. Exposure Controls/Personal Protection

Engineering Controls

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Fish skin gelatin	none listed	none listed	none listed

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State: Liquid

Appearance: clear, colorless

Odor: weak odor

pH: 7.2

Vapor Pressure: Not available.

Vapor Density: >1.0

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: > 100 deg C
Freezing/Melting Point: > 0 deg C
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density: Not available.
Molecular Formula: Solution
Molecular Weight: Not available.

10 Stability and Reactivity

Chemical Stability: Stable.
Conditions to Avoid: Incompatible materials, excess heat.
Incompatibilities with Other Materials: Strong acids, strong bases.
Hazardous Decomposition Products: Carbon monoxide, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported

11. Toxicological Information

Information on toxicological effects

Toxicological effects	No information available.
Skin corrosion/irritation	
Extreme pH	
Serious eye damage/irritation	Not determined.
Germ cell mutagenicity	
Genotoxicity - in vitro	Not determined.
Genotoxicity - in vivo	Not determined.
Carcinogenicity	Not determined.
Reproductive toxicity - fertility	Not determined.
Specific target organ toxicity - single exposure	
STOT - single exposure	Not determined.
Specific target organ toxicity - repeated exposure	
STOT - repeated exposure	Not determined.
Aspiration hazard	Not determined.
General information	No specific health hazards known.
Epidemiology:	No information found

12. Ecological Information

Toxicity

Acute toxicity - fish Not determined.

Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Mobility in soil

Mobility The product is soluble in water.

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment No information available

Other adverse effects

Other adverse effects Not determined.

13. Disposal Considerations

Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport Information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Road transport notes Not classified.

Rail transport notes Not classified.

Sea transport notes Not classified.

Air transport notes Not classified.

UN number Not applicable.

UN proper shipping name Not applicable.

Transport hazard class(es) Not applicable.

Packing group Not applicable.

Environmental hazards

Environmentally hazardous substance/marine pollutant No.

Special precautions for user Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Guidance Workplace Exposure Limits EH40. Approved Classification and Labelling Guide (Sixth edition) L131. Safety Data Sheets for Substances and Preparations.

Chemical safety assessment No chemical safety assessment has been carried out.

16. Other Information

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HMIS: Hazardous Materials Identification System (USA)

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

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