

IMMAGINA BIOTECHNOLOGY srl
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CircAID-p-seq kit (#CA001) consist of 22 tubes containing aqueous solutions, salts enzymes and oligos. Components list:

- Buffer PK (BPK)
- PK enzyme (PK)
- ATP 10 mM
- Buffer A (BA)
- Enzyme Mix A (mix A)
- MnCl₂
- GTP 1 mM
- Linker R (R) 20 µM
- Buffer B (BB)
- Enzyme Mix B (mix B)
- PEG 8000
- Nuclease (N)
- Buffer N (BN)
- P1 oligo (P1) 20 µM
- Buffer RT (BRT)
- RT enzyme (RT)
- dNTPs 10 mM
- HI solution (HI)
- Enhanced Buffer (EnB)
- Buffer Taq (BT)
- Taq
- P2 oligo (P2) 20 µM

A Safety Data Sheet is provided for Peg8000, Sodium Hydroxide, Glycerin, Nonylphenol ethoxylates, Sucrose.

The Linker R, ATP, GTP, dNTPs, P1oligo and P2 oligo are not known to be hazardous.

circAID-p-seq kit (#CA001) doesn't contain any animal or biological material.

IMMAGINA BIOTECHNOLOGY srl recommends all normal precautions. We recommend always wearing gloves and avoiding direct contact with skin and eyes when handling biochemical and chemical reagents and solutions. Information in this MSDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and IMMAGINA BIOTECHNOLOGY srl assumes no liability resulting from the use of this MSDS. The user must determine suitability of this information for his application.

Section 1: Company and Chemical Identification

IMMAGINA BIOTECHNOLOGY srl, Via alla Cascata 56/C, 38123 Trento, Italy, Tel:
+390461312018, info@immaginabiotech.com

Chemical Name: Peg8000 (#CA001-11).

Section 2: Composition and Information on Hazardous Ingredients

Component	CAS No	Weight %
Peg8000	25322-68-3	30 - 60

Section 3: Hazards Identification

3.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

3.2. Label elements

Product identifier

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal word

None

Section 4: First Aid Measures

4.1. Description of first aid measures

General advice

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.

Inhalation

Remove to fresh air.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

No information available

Section 5: Fire Fighting Measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

No information available

5.3. Advice for firefighters

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

Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation, especially in confined areas. For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature

Refer to protocol.

Storage Conditions

Keep/store only in original container.

Incompatible materials

None known based on information supplied.

Section 8: Exposure Controls/Personal Protection

8.1. Control parameters Exposure

Exposure Limits

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Peg 8000 25322-68-3	-	-	-	-	TWA: 1000 mg/m ³ Ceiling / Peak: 8000 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Peg 8000 25322-68-3	STEL 4000 mg/m ³ TWA: 1000 mg/m ³	TWA: 1000 mg/m ³	-	-	-

8.2. Exposure controls

Engineering controls

Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Skin and body protection Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Colorless
Odor	Mild
Odor threshold	No information available

Section 10: Stability and Reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Can react briskly with oxidizers - danger of explosion.

10.4. Conditions to avoid

Incompatible materials. Ignition sources. Heat.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO₂).

Section 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Product information

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

Inhalation

Avoid breathing vapors or mists

May cause irritation of respiratory tract

Eye contact

Redness

May cause slight irritation

Skin contact

Prolonged contact may cause redness and irritation

Repeated exposure may cause skin dryness or cracking

Ingestion

May cause drowsiness or dizziness

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting

Section 12: Ecological Information

12.1. Toxicity

50 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Pea 8000	-	5000: 24 h Carassius auratus mg/L LC50	-

12.2. Persistence and degradability

No information available

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

No information available

12.6. Other adverse effects

No information available

Endocrine disruptor information

No information available

Ozone

No information available

Section 13: Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14: Transport Information

US DOT

Shipping Name: Not regulated.

Section 15: Regulatory Information

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

National Regulations

Occupational Illnesses (R-463-3, France)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical work

International Inventories

All of the components in the product are on the following inventory lists TSCA (United States);, Canada (DSL Europe (EINECS/ELINCS), Australia (AICS), South Korea (KECL);, China (IECSC), Philippines (PICCS).

TSCA	Complies
EINECS	-
ELINCS	-
DSL	Complies
NDSL	Complies
PICCS	Complies
ENCS	-
IECSC	Complies
AICS	Complies
KECL	Complies

Legend

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

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Subst:

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical safety assessment

No information available

Section 16: Other Information

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IMMAGINA BIOTECHNOLOGY srl, Via alla Cascata 56/C, 38123 Trento, Italy, Tel:
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Chemical Name: Sodium Hydroxide Sodium Hydroxide

This MSDS contains information about Sodium Hydroxide and applies to *IMMAGINA BIOTECHNOLOGY* product Hi-solution (HI) (#CA001-18).

Section 2: Composition and Information on Hazardous Ingredients

Component	CAS No	Concentration
Sodium Hydroxide	1310-73-2	1M

Synonyms Caustic Soda; Soda Lye; White Caustic.

Section 3: Hazards Identification

Appearance: clear liquid. **Danger!** Causes eye and skin burns. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Corrosive to aluminum. Eye contact may result in permanent eye damage.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns. May cause lacrimation (tearing), blurred vision, and photophobia. May cause chemical conjunctivitis and corneal damage.

Skin: Causes skin burns. May cause deep, penetrating ulcers of the skin. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause systemic effects.

Inhalation: Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects. **Chronic:** Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed.

Section 4: First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult,

give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire Fighting 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. Use water spray to keep fire-exposed containers cool. Contact with metals may evolve flammable hydrogen gas.

Extinguishing Media: Use water spray to cool fire-exposed containers. 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: 3; Flammability: 0; Instability: 1

Section 6: Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8. **Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Discard contaminated shoes. Use only with adequate ventilation. Do not breathe spray or mist.

Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from metals. Keep away from flammable liquids. Keep away from organic halogens.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium hydroxide	2 mg/m ³ Ceiling	10 mg/m ³ IDLH	2 mg/m ³ TWA

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Sodium hydroxide: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9: Physical and Chemical Properties

Physical State: Liquid

Appearance: clear

Odor: none reported

pH: Alkaline

Vapor Pressure: 14 mm Hg

Vapor Density: >1.0

Evaporation Rate: Not available.

Viscosity: >1 (ether=1)

Boiling Point: 212 deg F

Freezing/Melting Point: 32 deg F

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.0

Molecular Formula: NaOH

Molecular Weight: Not available.

Section 10: Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Acids.

Incompatibilities with Other Materials: Metals, acids, aluminum, tin, zinc.

Hazardous Decomposition Products: Toxic fumes of sodium oxide.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

LD50/LC50:

Draize test, rabbit, eye: 400 ug Mild; Draize test, rabbit, eye: 1% Severe; Draize test, rabbit, eye: 50 ug/24H Severe; Draize test, rabbit, eye: 1 mg/24H Severe; Draize test, rabbit, skin: 500 mg/24H Severe;

Carcinogenicity:

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information found.

Teratogenicity: No information found.

Reproductive Effects: No information found.

Neurotoxicity: No information found.

Mutagenicity: No information found.

Other Studies: See actual entry in RTECS for complete information.

Section 12: Ecological Information

No data available.

Section 13: Disposal Considerations

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

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14: Transport Information

US DOT Information: Proper shipping name: Sodium Hydroxide, Solid Hazard Class: 8

Packaging group: II

UN Number: UN1823

IATA: Proper shipping name: Sodium Hydroxide, Solid Hazard Class: 8

Packing group: II

UN Number: UN1823

IMO: Proper shipping name: Sodium Hydroxide, Solid Class: 8

UN Number: UN1823

Packing group: II

Marine Pollutant: No

Canadian TDG: Proper shipping name: Sodium Hydroxide, Solid

Section 15: Regulatory Information

US FEDERAL

TSCA

CAS# 1310-73-2 is listed on the TSCA inventory.

Health & Safety Reporting List

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

Chemical Test Rules

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

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

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

SARA

CERCLA Hazardous Substances and corresponding RQs

CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 1310-73-2: acute, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 1310- 73-2 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

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

STATE

CAS# 1310-73-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

C **Risk Phrases:** R

34 Causes burns.

D Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 1310-73-2: 1

Canada - DSL/NDSL

CAS# 1310-73-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E.

Canadian Ingredient Disclosure List

CAS# 1310-73-2 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 1310-73-2: OEL -AUSTRALIA:TWA 2 mg/m3 OEL-BELGIUM:STEL 2 mg/m3 OEL-DENMARK:TWA 2 mg/m3 OEL-FINLAND:TWA 2 mg/m3 OEL-FRANCE:TWA 2 mg /m3 OEL-GERMANY:TWA 2 mg/m3 OEL-JAPAN:STEL 2 mg/m3 OEL-THE NETHERLA
NDS:TWA 2 mg/m3 OEL-THE PHILIPPINES:TWA 2 mg/m3 OEL-SWEDEN:TWA 2 mg/ m3
OEL-SWITZERLAND:TWA 2 mg/m3;STEL 4 mg/m3 OEL -THAILAND:TWA 2 mg/m3 OEL -
TURKEY:TWA 2 mg/m3 OEL-UNITED KINGDOM:TWA 2 mg/m3;STEL 2 mg/m3 OEL IN
BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW
ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16: Other Information

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IMMAGINA BIOTECHNOLOGY srl, Via alla Cascata 56/C, 38123 Trento, Italy, Tel:
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Chemical Name: Glycerin

This MSDS contains information about Glycerin and applies to *IMMAGINA BIOTECHNOLOGY* products Buffer PK (#CA001-1), PK enzyme (#CA001-2), Buffer A (#CA001-4), Enzyme mix A (#CA001-5), Buffer B (#CA001-9), Enzyme mix B (#CA001-10), Nuclease (#CA001-12), Buffer N (#CA001-13), Buffer RT (#CA001-15), RT enzyme (#CA001-16), Enhanced Buffer (#CA001-19), Buffer Taq (#CA001-20), Taq (#CA001-21).

Section 2: Composition and Information on Hazardous Ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Component	CAS-No.	EINECS-No.	Weight percent	REACH registration number	Classification according to Regulation (EC) No
Glycerin 56-81-5 (40 - 70)	56-81-5	-	40 - 70	-	1272/2008 [CLP] Non hazardous

Synonymous: Glycerol

Section 3: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

-

Section 4: First Aid Measures

Description of first aid measures

Skin contact

Rinse with plenty of 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.

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: Fire Fighting Measures

Extinguishing media

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable Extinguishing Media

No information available.

Special hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

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 detail.

Environmental precautions

No special environmental precautions required. Methods and material for containment and cleaning up Soak up with inert absorbent material.

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 labelled containers.

Section 8: Exposure Controls/Personal Protection

Chemical Name	EU OEL (TWA)	EU OEL (STEL)	EU Skin Notation
Glycerin 56-81-5	None	None	None

Chemical Name	Austria	Belgium (TWA)	Denmark (TWA)	Finland OEL (TWA)
Glycerin 56-81-5	None	10 mg/m ³	None	None

Chemical Name	France OEL (VME)	Germany OEL (TWA)	Ireland (TWA)	Italy OEL (TWA)
Glycerin 56-81-5	10 mg/m ³	None	10 mg/m ³	None

Chemical Name	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Netherlands OEL (MAC)	Spain OEL (TWA)	United Kingdom
Glycerin 56-81-5	None	None	10 mg/m ³	10 mg/m ³ TWA (mist)

Chemical Name	European Union	France OEL (VME)	Germany OEL (TWA)
Glycerin 56-81-5	None	10 mg/m ³	None

Chemical Name	Italy OEL (TWA)	Portugal	Netherlands OEL (MAC)	Finland OEL (TWA)
Glycerin 56-81-5	None	None	None	None

Chemical Name	Austria	Denmark	Poland	Switzerland
Glycerin 56-81-5	None	None	None	None

Chemical Name	Ireland	Norway	Lithuania OEL (TWA)	Spain OEL (TWA)
Glycerin 56-81-5	None	None	None	10 mg/m ³

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protection 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

Appearance

Colourless, Liquid

Odour

No data available

Melting point / melting range

°C Mixture has not been tested

°F Mixture has not been tested

Boiling point / boiling range

°C Mixture has not been tested

°F Mixture has not been tested

Flash point

°C Mixture has not been tested

°F Mixture has not been tested

Autoignition temperature

°C Mixture has not been tested

°F Mixture has not been tested

Decomposition temperature

°C Mixture has not been tested

°F Mixture has not been tested

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Upper explosion limit

Mixture has not been tested

Lower explosion limit

Mixture has not been tested

Vapour Pressure

Mixture has not been tested

Relative density

Mixture has not been tested

Specific gravity

No data available

Solubility

no data available

Partition coefficient: No data available
n-octanol/water
Explosive properties Mixture has not been tested

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

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerin	= 12600 mg/kg (Rat)	No data available	>570mg/m ³ (Rat)

Principal Routes of Exposure, Potential health effects

Irritation Conclusive but not sufficient for classification
Corrosivity Conclusive but not sufficient for classification
Sensitisation Conclusive but not sufficient for classification
STOT - Single Exposure Conclusive but not sufficient for classification
STOT - Repeated Exposure Conclusive but not sufficient for classification
Carcinogenicity Conclusive but not sufficient for classification
Mutagenicity Conclusive but not sufficient for classification
Reproductive toxicity Conclusive but not sufficient for classification
Aspiration Hazard Conclusive but not sufficient for classification

Section 12: Ecological Information

Toxicity

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerin	No data available	Daphnia magna EC50>500 mg/L (24 h)	No data available	No data available	logPow-1.76

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.

Identification: Not available.

Special Provisions for Transport: Not available.

Section 15: Regulatory Information

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

Substances of Very High Concern

None.

Restricted substances under EC 1907/2006, Annex XVII None. Substances listed under Annex I of Regulation (EC) No 689/2008

None.

Restricted substances under Annex V of Regulation (EC) No 689/2008 None. Substances under Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

None.

German Water hazard classes (Wassergefährdungsklassen)

Chemical Name	Weight percent	Germany - Water Classification (VwVwS) - Annex 1	Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes	Germany - Water Classification (VwVwS) - Annex 3
Glycerin	40 - 70		hazard class 1 - low hazard to waters	

Other International Inventories

Chemical Name	EINECS (European Union)	ELINCS (European List of Notified Chemical Substances)	ENCS (Japan)	PICCS (Philippines)
Glycerin	Listed	-	Listed	Listed

Chemical Name	AICS (Australia)	South Korea (KECL)	Canada (DSL)	NDSL
Glycerin	Listed	Listed	Listed	-

Section 16: Other Information

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Section 1: Company and Chemical Identification

IMMAGINA BIOTECHNOLOGY srl, Via alla Cascata 56/C, 38123 Trento, Italy, Tel:
+390461312018, info@immaginabiotech.com

Chemical Name: Nonylphenol ethoxylates

This MSDS contains information about Nonylphenol ethoxylates and applies to *IMMAGINA BIOTECHNOLOGY* products Taq (#CA001-21).

Section 2: Composition and Information on Hazardous Ingredients

We recommend handling all chemicals with caution.

Component	CAS No	EINECS-No.	Weight-%	REACH registration number	Classification according to Regulation (EC) No 1272/2008 [CLP]
Nonylphenol ethoxylates 9016-45-9 (<0.9)	9016-45-9	500-024-6	<0.9	-	Acute Tox. 4 - H302 Eye Dam. 1 - H318 Chronic Aquatic 2 - H411

Section 3: Hazards Identification**Classification of the substance or mixture**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.

Label elements

This substance is not classified as dangerous according to Directive 67/548/EEC.

Other hazards - none

Section 4: First Aid Measures**Description of first aid measures****Skin contact**

Rinse with plenty of 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: Fire Fighting Measures

Extinguishing media

Suitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Special hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

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 detail.

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.

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 labelled containers.

Section 8: Exposure Controls/Personal Protection

Control parameters

None.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protection 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

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

Appearance	liquid	
Odour	No data available	
pH	No data available	
Melting point / melting range	°C Mixture has not been tested	°F Mixture has not been tested
Boiling point / boiling range	°C Mixture has not been tested	°F Mixture has not been tested
Flash point	°C Mixture has not been tested	°F Mixture has not been tested
Autoignition Temperature	°C Mixture has not been tested	°F Mixture has not been tested
Decomposition temperature	°C Mixture has not been tested	°F Mixture has not been tested
Evaporation rate	No data	
Flammability (solid, gas)	Not Applicable	
Upper explosion limit	Mixture has not been tested	
Lower explosion limit	Mixture has not been tested	
Vapour Pressure	Mixture has not been tested	
Relative density	Mixture has not been tested	
Specific gravity	No data	
Solubility	No data	
Partition coefficient: n-octanol/water	No data available	
Viscosity	No data	
Explosive properties	Mixture has not been tested	
Oxidising properties	No data	
Other information		
No data 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	None under normal processing.
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

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Nonylphenol ethoxylates	= 2590 mg/kg (Rat) = 1310 mg/kg (Rat) = 1300 mg/kg (Rat) = 1410 µL/kg (Rat)	No data available	No data available

Principal Routes of Exposure,

Skin corrosion/irritation	Conclusive but not sufficient for classification
Serious eye damage/irritation	Conclusive but not sufficient for classification
Respiratory or skin sensitisation	Conclusive but not sufficient for classification
Specific target organ toxicity (STOT) - single exposure	Conclusive but not sufficient for classification
Specific target organ toxicity (STOT) - repeated exposure	Conclusive but not sufficient for classification
Carcinogenicity	Conclusive but not sufficient for classification
Germ cell mutagenicity	Conclusive but not sufficient for classification
Reproductive Toxicity	Conclusive but not sufficient for classification
Aspiration Hazard	Conclusive but not sufficient for classification

Section 12: Ecological Information

Toxicity.

Contains a known or suspected endocrine disruptor.

Chemical Name	EU - Endocrine Disruptors Candidate List
Nonylphenol ethoxylates	Group III Chemical; Group III Chemical (with 9<EO<19); Group III Chemical (with EO>19); Group III Chemical (with EO<9) Group III Chemical

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.

Identification: Not available.

Special Provisions for Transport: Not available.

Section 15: Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Substances of Very High Concern

Chemical Name	Weight-%	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances for Eventual Inclusion in Annex XIV
Nonylphenol ethoxylates	<0.9	Reason for inclusion Endocrine disrupting properties, Article 57f - environment

EU REACH (1907/2006) - Annex XIV - Substances Subject to Authorization

Contains:

Chemical Name	Weight-%	EU - REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Nonylphenol ethoxylates	<0.9	Intrinsic properties: Endocrine disrupting properties (Article 57(f) - environment) Application date: July 4, 2019 Sunset date: January 4, 2021 Exempted uses: None

Restricted substances under EC 1907/2006, Annex XVII

None.

Chemical Name	Weight-%	EU - REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances
Nonylphenol ethoxylates	<0.9	Use restricted. See item 46[b]. Use restricted. See item 46a.

Substances listed under Annex I of Regulation (EC) No 689/2008

None.

Restricted substances under Annex V of Regulation (EC) No 689/2008

None.

Substances under Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

None.

German Water hazard classes (Wassergefährdungsklassen)

Chemical Name	Weight-%	Germany - Water Classification - Substances According to AwSV Classified By or Based on the VwVwS
Nonylphenol ethoxylates	<0.9	hazard class 3 - highly hazardous to water hazard class 2 - obviously hazardous to water

Chemical safety assessment

No Chemical safety assessment has been carried out.

Section 16: Other Information

The above information is offered in good faith as accurate, but without guarantee, and should be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It doesn't represent any guarantee of the properties of the product. IMMAGINA BIOTECHNOLOGY srl shall not be held liable for any damage resulting from handling of from contact with the above product. All risks of use of the product should be assumed by the user.

Section 1: Company and Chemical Identification

IMMAGINA BIOTECHNOLOGY srl, Via alla Cascata 56/C, 38123 Trento, Italy, Tel:
+390461312018, info@immaginabiotech.com

Chemical Name: Sucrose, part of the product Buffer Taq (#CA001-20).

Section 2: Composition and Information on Hazardous Ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Component	CAS No	EINECS-No.	Weight-%	REACH registration number	Classification according to Regulation (EC) No 1272/2008 [CLP]
Sucrose 57-50-1 (10-30)	57-50-1	-	10-30	-	Not classified

Section 3: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Section 4: First Aid Measures

Description of first aid measures

Skin contact

Rinse with plenty of 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: Fire Fighting Measures

Extinguishing media

Suitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Advice for fire-fighters

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 detail.

Environmental precautions

No special environmental precautions required.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

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 labelled containers.

Section 8: Exposure Controls/Personal Protection

Control parameters

Chemical Name	EU OEL (TWA)	EU OEL (STEL)	EU Skin Notation
Sucrose 57-50-1	None	None	None

Chemical Name	Austria	Belgium (TWA)	Denmark (TWA)	Finland OEL (TWA)
Sucrose 57-50-1	None	10 mg/m ³	None	None

Chemical Name	France OEL (VME)	Germany OEL (TWA)	Ireland (TWA)	Italy OEL (TWA)
Sucrose 57-50-1	10 mg/m ³	None	10 mg/m ³	None

Chemical Name	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Netherlands OEL (MAC)	Spain OEL (TWA)	United Kingdom
Sucrose 57-50-1	None	None	10 mg/m ³	10 mg/m ³ TWA

Chemical Name	European Union	France OEL (VME)	Germany OEL (TWA)
Sucrose 57-50-1	None	10 mg/m ³	None

Chemical Name	Italy OEL (TWA)	Portugal	Netherlands OEL (MAC)	Finland OEL (TWA)
Sucrose 57-50-1	None	None	None	None

Chemical Name	Austria	Denmark	Poland	Switzerland
Sucrose 57-50-1	None	None	None	None

Chemical Name	Ireland	Norway	Lithuania OEL (TWA)	Spain OEL (TWA)
Sucrose 57-50-1	None	None	10 mg/m ³	10 mg/m ³

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protection 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

Appearance	liquid	
Odour	No data available	
pH	Mixture has not been tested	
Melting point / melting range	°C Mixture has not been tested	°F Mixture has not been tested
Boiling point / boiling range	°C Mixture has not been tested	°F Mixture has not been tested
Flash point	°C Mixture has not been tested	°F Mixture has not been tested
Autoignition Temperature	°C Mixture has not been tested	°F Mixture has not been tested
Decomposition temperature	°C Mixture has not been tested	°F Mixture has not been tested
Evaporation rate	No data	
Flammability (solid, gas)	Not Applicable	
Upper explosion limit	Mixture has not been tested	
Lower explosion limit	Mixture has not been tested	

Vapour Pressure	Mixture has not been tested
Relative density	Mixture has not been tested
Specific gravity	No data
Solubility	Soluble in water
Partition coefficient: n-octanol/water	No data available
Viscosity	No data
Explosive properties	Mixture has not been tested
Oxidising properties	No data

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	None under normal processing.
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

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Sucrose	= 29700 mg/kg (Rat)	No data available	No data available

Principal Routes of Exposure,

Skin corrosion/irritation	Conclusive but not sufficient for classification
Serious eye damage/irritation	Conclusive but not sufficient for classification
Respiratory or skin sensitisation	Conclusive but not sufficient for classification
Specific target organ toxicity (STOT) single exposure	Conclusive but not sufficient for classification
Specific target organ toxicity (STOT) repeated exposure	Conclusive but not sufficient for classification
Carcinogenicity	Conclusive but not sufficient for classification
Germ cell mutagenicity	Conclusive but not sufficient for classification
Reproductive Toxicity	Conclusive but not sufficient for classification
Aspiration Hazard	Conclusive but not sufficient for classification

Section 12: Ecological Information

Toxicity

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

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 classified as dangerous in the meaning of transport regulations

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

Not Applicable.

Section 15: Regulatory Information

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

Substances of Very High Concern

None.

EU REACH (1907/2006) - Annex XIV - Substances Subject to Authorization

None

Restricted substances under EC 1907/2006, Annex XVII

None.

Substances listed under Annex I of Regulation (EC) No 689/2008

None.

Restricted substances under Annex V of Regulation (EC) No 689/2008

None.

Substances under Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

None.

Section 16: Other Information

The above information is offered in good faith as accurate, but without guarantee, and should be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It doesn't represent any guarantee of the properties of the product. IMMAGINA BIOTECHNOLOGY srl shall not be held liable for any damage resulting from handling of from contact with the above product. All risks of use of the product should be assumed by the user.

