

IMMAGINA BIOTECHNOLOGY srl
Via Sommarive 18, 38123 Trento, Italy
Tel: +390461312018, info@immaginabiotech.com

LACEseq kit (#LS001_12) consist of 20 tubes containing aqueous solutions, salts enzymes and oligos. Components list:

- Buffer BPK
- PK enzyme (PK)
- ATP
- Buffer BA
- Enzyme Mix A (Mix A)
- MnCl₂
- GTP
- Linker MC (1 µM)
- Buffer BLB
- Enzyme Mix B (Mix B)
- PEG 8000
- RT_T Primer (RT_T)
- Buffer BRT
- RT enzyme (RT)
- dNTPs
- DTT
- Amplification mix (AM)
- Fw PCR1 (F1)
- Rev PCR1 (R1)
- Control (CTRL)

A Safety Data Sheet is provided for Peg8000.

PK enzyme, GTP, dNTPs, PK enzyme (PK), ATP, Buffer BA, Enzyme Mix A (Mix A), GTP, MnCl₂, Buffer BLB, Enzyme Mix B (Mix B), Buffer BRT, RT enzyme (RT), DTT, dNTPs, Amplification mix (AM) are classified as not hazardous according to regulation (EC) 1272/2008 [GHS]. Linker MC, RT_T Primer (RT_T), Fw PCR1 (F1), Rev PCR1 (R1) and Control (CTRL) are oligos and are classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

LACEseq kit (#LS001_12) 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 Sommative 18, 38123 Trento, Italy, Tel: +390461312018,
info@immaginabiotech.com

Chemical Name: Peg8000 (#LS-001-11)

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
Pea 8000

Algae/aquatic plants
-

Fish
5000: 24 h Carassius auratus mg/L

Crustacea
-

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

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 Sommativa 18, 38123 Trento, Italy, Tel: +390461312018,
info@immaginabiotech.com

Chemical Name: DTT (Dithiothreitol) (#LS-001-16)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Long-term (chronic) aquatic hazard (Category 3), H412

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H412

Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P273

Avoid release to the environment.

P301 + P312 + P330

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

Supplemental Hazard
Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : threo-1,4-Dimercapto-2,3-butanediol
Cleland's reagent
DTT

Formula : C₄H₁₀O₂S₂

Molecular weight : 154,25 g/mol

CAS-No. : 3483-12-3

EC-No. : 222-468-7

Component	Classification	Concentration
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	Acute Tox. 4; Aquatic Chronic 3; H302, H412	<= 100 %

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable

extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 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.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Recommended storage temperature 2 - 8 °C

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

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

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

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

Splash contact Material:

Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

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

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail

sales@kcl.de, test method: EN374

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

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU)

EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|--|
| a) Appearance | Form: powder
Colour: white |
| b) Odour | unpleasant |
| c) Odour Threshold | No data available |
| d) pH | 4,0 - 6 at 15,4 g/l at 25 °C |
| e) Melting point/freezing point | Melting point/range: 41 - 44 °C No |
| f) Initial boiling point and boiling range | data available |
| g) Flash point | 113 °C - closed cup |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapour pressure | No data available |
| l) Vapour density | No data available |
| m) Relative density | No data available |
| n) Water solubility | 15,4 g/l at 20 °C |
| o) Partition coefficient: n-octanol/water | log Pow: 0,12 at 25 °C - Bioaccumulation is not expected., (Lit.)log Pow: -0,5 at 25 °C - Bioaccumulation is not expected. |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

May decompose on exposure to moist air or water. Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Bases, Oxidizing agents, Reducing agents, Alkali metals

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides
Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute

toxicity

LD50 Oral - Rat - 400 mg/kg Remarks:
(External MSDS)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

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

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: EK1610000

Nausea, Headache, Vomiting, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

No data available

Toxicity to daphnia
and other aquatic
invertebrates

static test EC50 - Daphnia magna (Water flea) - 27 mg/l - 48 h Remarks:
(ECOTOX Database)

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Harmful to aquatic life with long lasting effects. No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods Product

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: -

IMDG: -

IATA: 3335

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Aviation regulated solid, n.o.s. ((R*,R*)-1,4-Dimercaptobutane-2,3-diol)

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: 9

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3.**

H302

Harmful if swallowed.

H412

Harmful to aquatic life with long lasting effects.

Further information