

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 20.06.2024

Version 1.0

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

1.1 Product identifier

Product name LiverAce® COMBO Kit

10X Wash Buffer

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.3 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
Avenida de la Innovación, 1
18016 Granada, Spain
+34660159779
www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1, H317

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

Classification (67/548/EEC or 1999/45/EC)

Sensitising

R43

For the full text of the R-phrases mentioned in this Section, see Section 16.

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Product name LiverAce® COMBO Kit
10X Wash Buffer

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Warning

Hazard statements

H317 May cause an allergic skin reaction.

Precautionary statements

Prevention

P280 Wear protective gloves.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

Contains: mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6]

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous solution

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No. Registration number Classification

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] ($\geq 0,0015\%$ - $< 0,06\%$)

55965-84-9 *)

Acute toxicity, Category 3, H301

Acute toxicity, Category 3, H331

Acute toxicity, Category 3, H311

Skin corrosion, Category 1B, H314

Skin sensitisation, Category 1, H317

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

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Product name LiverAce® COMBO Kit
 10X Wash Buffer

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No. Classification

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] ($\geq 0,0015\%$ - $< 0,06\%$)

55965-84-9 T, Toxic; R23/24/25

C, Corrosive; R34

R43

N, Dangerous for the environment; R50-53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

After eye contact: rinse out with plenty of water.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

according to Regulation (EC) No. 1907/2006

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Protective equipment see section 8.

Do not let product enter drains.

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

Indications about waste treatment see section 13.

Advice on safe handling
Observe label precautions.

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Tightly closed. Dry.

The data applies to the entire pack.

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

Contains no substances with occupational exposure limit values.

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

according to Regulation (EC) No. 1907/2006

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Product name	LiverAce® COMBO Kit 10X Wash Buffer
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Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

none

10.1 Reactivity

See section 10.3

The product is chemically stable under standard ambient conditions (room temperature) .

Violent reactions possible with:

The generally known reaction partners of water.

no information available

no information available

no information available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
10X Wash Buffer

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

This information is not available.

Acute inhalation toxicity

This information is not available.

Acute dermal toxicity

This information is not available.

Skin irritation

This information is not available.

Eye irritation

This information is not available.

Sensitisation

Mixture may cause an allergic skin reaction.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6]

Acute inhalation toxicity

Acute toxicity estimate: 0,6 mg/l; dust/mist

Expert judgement

Acute dermal toxicity

Acute toxicity estimate: 300,1 mg/kg

Expert judgement

SECTION 12. Ecological information

Mixture

12.1 Toxicity

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Product name LiverAce® COMBO Kit
10X Wash Buffer

No information available.

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

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

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

Components

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6]

No information available.

SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

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

Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

according to Regulation (EC) No. 1907/2006

LiverAce® COMBO Kit

SECTION 15. Regulatory information

National legislation

10 - 13

The data applies to the entire pack.

For this product a chemical safety assessment was not carried out.

Full text of H-Statements referred to under sections 2 and 3.

Toxic if swallowed.

Toxic in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Toxic if inhaled.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Toxic by inhalation, in contact with skin and if swallowed.

Causes burns.

May cause sensitisation by skin contact.

Very toxic to aquatic organisms.

May cause long-term adverse effects in the aquatic environment.

Provide adequate information, instruction and training for operators.

Hazard pictograms



Warning

H317 May cause an allergic skin reaction.

Prevention

P280 Wear protective gloves.

P302 + P532 IF ON SKIN: Wash with plenty of soap and water.

according to Regulation (EC) No. 1907/2006

Labelling (67/548/EEC or 1999/45/EC)

<i>R</i> -phrase(s)	43	May cause sensitisation by skin contact.
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Contains: mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6]

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Date of issue: 20.06.2024

Version 1.0

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

1.1 Product identifier

Product name LiverAce® COMBO Kit

 Streptavidin-Phycoerythrin

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.3 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
 Avenida de la Innovación, 1
 18016 Granada, Spain
 +34660159779
 www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2, H319

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

Classification (67/548/EEC or 1999/45/EC) In accordance with EC directives or respective national laws, the product does not need to be classified nor labelled.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



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Product name LiverAce® COMBO Kit
 Streptavidin-Phycoerythrin

Signal word

Warning

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

Response

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

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Warning

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous solution

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No.	Registration number	Classification
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Tetrasodium ethylenediaminetetraacetate tetrahydrate	(≥ 1 % - < 3 %)	
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13235-36-4	*)	
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Acute toxicity, Category 4, H302

Serious eye damage, Category 1, H318

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No.	Classification
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Tetrasodium ethylenediaminetetraacetate tetrahydrate	(≥ 1 % - < 5 %)
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13235-36-4	Xn, Harmful; R22
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	Xi, Irritant; R41
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For the full text of the R-phrases mentioned in this Section, see Section 16.

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Product name LiverAce® COMBO Kit
 Streptavidin-Phycoerythrin

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

4.3 Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Special protective equipment for firefighters

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

Further information

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

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

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

according to Regulation (EC) No. 1907/2006

6.4 Reference to other sections

Indications about waste treatment see section 13.

7.1 Precautions for safe handling

Observe label precautions.

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

Storage conditions

Tightly closed. Dry.

Recommended storage temperature, see product label.

The data applies to the entire pack.

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

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Safety glasses

full contact:

Glove material: Nitrile rubber
Glove thickness: 0,11 mm
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber
Glove thickness: 0,11 mm
Break through time: > 480 min

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Product name LiverAce® COMBO Kit
 Streptavidin-Phycoerythrin

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
protective clothing

Respiratory protection
required when vapours/aerosols are generated.
Recommended Filter type: filter ABEK
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.

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according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
 Streptavidin-Phycoerythrin

Relative density	No information available.
Water solubility	soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Acute inhalation toxicity

Symptoms: Possible damages: mucosal irritations

Acute dermal toxicity

This information is not available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
 Streptavidin-Phycoerythrin

Skin irritation

This information is not available.

Eye irritation

Mixture causes serious eye irritation.

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

Tetrasodium ethylenediaminetetraacetate tetrahydrate

Acute oral toxicity

LD50 Rat: > 1.000 mg/kg (External MSDS)

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

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

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

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

Tetrasodium ethylenediaminetetraacetate tetrahydrate

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Product name LiverAce® COMBO Kit
 Streptavidin-Phycoerythrin

Toxicity to fish
LC50 fish: 41 - 2.070 mg/l; 96 h (anhydrous substance) (External MSDS)

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia (water flea): > 500 mg/l; 24 h (anhydrous substance) (External MSDS)

Toxicity to algae
IC50 algae: 10 - 100 mg/l; 72 h (anhydrous substance) (External MSDS)

SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

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

Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

National legislation

Storage class 10 - 13

The data applies to the entire pack.

15.2 Chemical Safety Assessment

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Product name LiverAce® COMBO Kit
 Streptavidin-Phycoerythrin

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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Full text of R-phrases referred to under sections 2 and 3

R22	Harmful if swallowed.
R41	Risk of serious damage to eyes.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Warning

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

Response

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

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 20.06.2024

Version 1.0

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

1.1 Product identifier

Product name LiverAce® COMBO Kit

K18 and miRNA122 Standards

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.3 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
Avenida de la Innovación, 1
18016 Granada, Spain
+34660159779
www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral, H302

Chronic aquatic toxicity, Category 2, H411

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

Classification (67/548/EEC or 1999/45/EC)

T	Toxic	R25
N	Dangerous for the environment	R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
K18 and miRNA122 Standards

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Warning

Contains: sodium azide

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Mixture of inorganic and organic compounds

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No.	Registration number	Classification
sodium azide ($\geq 2,5\%$ - $< 7\%$)		
26628-22-8	*)	Acute toxicity, Category 2, H300 Acute aquatic toxicity, Category 1, H400 Chronic aquatic toxicity, Category 1, H410

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
K18 and miRNA122 Standards

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

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No. Classification

sodium azide ($\geq 2,5\%$ - $< 7\%$)

26628-22-8 R32

T+, Very toxic; R28

N, Dangerous for the environment; R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Spasm, Headache, Dizziness, Nausea, Vomiting, collapse, Unconsciousness

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Mixture with combustible ingredients.

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

Fire may cause evolution of:

Hydrogen chloride gas, Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
K18 and miRNA122 Standards

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment, see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Sodium azide and other inorganic azides (including explosive heavy metal azides) can be rendered harmless by spraying with or immersion into a 0.1 N solution of ammonium (IV) nitrate in 2 N perchloric acid.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Recommended storage temperature, see product label.

The data applies to the entire pack.

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

sodium azide (26628-22-8)

AU OEL	Time Weighted Average	0,11 ppm
	(TWA):	0,3 mg/m ³

8.2 Exposure controls

according to Regulation (EC) No. 1907/2006

Engineering measures

Individual protection measures

Eye/face protection

Hand protection

Other protective equipment

Respiratory protection

Environmental exposure controls

SECTION 9. Physical and chemical properties

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SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name	LiverAce® COMBO Kit K18 and miRNA122 Standards
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Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
K18 and miRNA122 Standards

A risk of explosion and/or of toxic gas formation exists with the following substances:

Heavy metals, Bromine, dimethylsulfate, Acid, dichloromethane, carbon disulfide, sulphuric acid,
Halogenated hydrocarbon, Copper, Lead, chromyl chloride

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Acute toxicity estimate: 1.038 mg/kg

Calculation method

absorption

Acute inhalation toxicity

This information is not available.

Acute dermal toxicity

This information is not available.

Skin irritation

This information is not available.

Eye irritation

This information is not available.

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

according to Regulation (EC) No. 1907/2006

Sodium azide: after inhalation of dusts/aerosols: severe irritations of: mucous membranes, respiratory tract. Possible damages: pulmonary oedema. Latency time until onset of action. After skin contact: slight irritations. Danger of skin absorption. After eye contact: slight irritations. After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Systemic effects: CNS disorders, cardiovascular failure, tachycardia, drop in blood pressure, coughing, dyspnoea, spasms, headache, dizziness, nausea, vomiting, collapse, unconsciousness.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

sodium azide

Sensitisation
Sensitisation test: Mouse
Result: negative
Method: OECD Test Guideline 429

Mixture

12.1 Toxicity

No information available.

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

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

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

sodium azide

Toxicity to daphnia and other aquatic invertebrates
EC50 *Daphnia pulex* (Water flea): 4,2 mg/l; 48 h (ECOTOX Database)

according to Regulation (EC) No. 1907/2006

Toxicity to bacteria
EC50 Photobacterium phosphoreum: 38,5 mg/l(Lit.)

according to Regulation (EC) No. 1907/2006

LiverAce® COMBO Kit
K18 and miRNA122 Standards

Full text of H-Statements referred to under sections 2 and 3.

H300	Fatal if swallowed.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

R25	Toxic if swallowed.
R28	Very toxic if swallowed.
R32	Contact with acids liberates very toxic gas.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Provide adequate information, instruction and training for operators.

Hazard pictograms



Warning

H302 Harmful if swallowed.
H411 Toxic to aquatic life with long lasting effects.

Prevention
P273 Avoid release to the environment.

<i>Symbol(s)</i>	T N	Toxic Dangerous for the environment
<i>R-pharse(s)</i>	25-51/53	Toxic if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<i>S-pharse(s)</i>	37-45-61	Wear suitable gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Product name	LiverAce® COMBO Kit K18 and miRNA122 Standards
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Symbol(s)		
		T N

<i>R</i> -phrase(s)	25
<i>S</i> -phrase(s)	45

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

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 20.06.2024

Version 1.0

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

1.1 Product identifier

Product name LiverAce® COMBO Kit

Assay Matrix

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.3 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
Avenida de la Innovación, 1
18016 Granada, Spain
+34660159779
www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral, H302

Chronic aquatic toxicity, Category 3, H412

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

Classification (67/548/EEC or 1999/45/EC)

T	Toxic	R25
	Dangerous for the environment	R52/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Warning

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Contains: sodium azide

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Mixture of inorganic and organic compounds

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No.	Registration number	Classification
sodium azide ($\geq 1\%$ - $< 2,5\%$)		
26628-22-8	*)	Acute toxicity, Category 2, H300 Acute aquatic toxicity, Category 1, H400 Chronic aquatic toxicity, Category 1, H410

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No. Classification

sodium azide ($\geq 1\%$ - $< 2,5\%$)

26628-22-8 R32

T+, Very toxic; R28

N, Dangerous for the environment; R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Spasm, Nausea, Vomiting, Headache, Dizziness, collapse, Unconsciousness

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Mixture with combustible ingredients.

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

Ambient fire may liberate hazardous vapours.

Hydrogen chloride gas, Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment, see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Sodium azide and other inorganic azides (including explosive heavy metal azides) can be rendered harmless by spraying with or immersion into a 0.1 N solution of ammonium (IV) nitrate in 2 N perchloric acid.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Recommended storage temperature see product label.

The data applies to the entire pack.

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

sodium azide (26628-22-8)

AU OEL	Time Weighted Average	0,11 ppm
	(TWA):	0,3 mg/m ³

8.2 Exposure controls

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (splash contact), KCL 741 Dermatril® L (full contact).

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	Lyophilisate
Colour	beige

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

A risk of explosion and/or of toxic gas formation exists with the following substances:

Heavy metals, Bromine, dimethylsulfate, Acid, dichloromethane, carbon disulfide, sulphuric acid,
Halogenated hydrocarbon, Copper, Lead, chromyl chloride

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Acute toxicity estimate: 1.709 mg/kg

Calculation method

absorption

Acute inhalation toxicity

This information is not available.

Acute dermal toxicity

This information is not available.

Skin irritation

This information is not available.

Eye irritation

This information is not available.

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

Sodium azide: after inhalation of dusts/aerosols: severe irritations of: mucous membranes, respiratory tract. Possible damages: pulmonary oedema. Latency time until onset of action. After skin contact: slight irritations. Danger of skin absorption. After eye contact: slight irritations. After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Systemic effects: CNS disorders, cardiovascular failure, tachycardia, drop in blood pressure, coughing, dyspnoea, spasms, headache, dizziness, nausea, vomiting, collapse, unconsciousness.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

sodium azide

Acute oral toxicity

LD50 Rat: 27 mg/kg (RTECS)

Acute inhalation toxicity

LC50 Rat: 37,0 mg/l(External MSDS)

Skin irritation

In vitro study

Result: No skin irritation

Human Skin Model Test

Eye irritation

In vitro study

Result: No eye irritation

OECD Test Guideline 437

Sensitisation

Sensitisation test: Mouse

Result: negative

Method: OECD Test Guideline 429

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

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

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

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

sodium azide

Toxicity to fish

LC50 Lepomis macrochirus (Bluegill sunfish): 0,7 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia pulex (Water flea): 4,2 mg/l; 48 h (ECOTOX Database)

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

Toxicity to algae
IC50 mixed culture of green algae: 272 mg/l(Lit.)

Toxicity to bacteria
EC50 Photobacterium phosphoreum: 38,5 mg/l(Lit.)

SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

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

Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

National legislation

Storage class 10 - 13

The data applies to the entire pack.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Assay Matrix

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H300	Fatal if swallowed.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

R25	Toxic if swallowed.
R28	Very toxic if swallowed.
R32	Contact with acids liberates very toxic gas.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	 T	Toxic
R-phrases	25-52/53	Toxic if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases	37-45-61	Wear suitable gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Reduced labelling (≤125 ml)

Symbol(s)  T

R-phrases) 25-52/53

S-phrases) 45

Toxic

Toxic if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

Contains: sodium azide

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 20.06.2024

Version 1.0

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.2 Product identifier**

Product name LiverAce® COMBO Kit

Sodium cyanoborohydride (Reducing Agent)

REACH Registration Number A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.4 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.5 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
Avenida de la Innovación, 1
18016 Granada, Spain
+34660159779
www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name LiverAce® COMBO Kit
Sodium cyanoborohydride (Reducing Agent)

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable solids, (Category 1)	H228: Flammable solid.
Substances and mixtures which in contact with water emit flammable gases, (Category 1)	H260: In contact with water releases flammable gases which may ignite spontaneously.
Acute toxicity, (Category 2)	H300: Fatal if swallowed.
Acute toxicity, (Category 2)	H330: Fatal if inhaled.
Acute toxicity, (Category 2)	H310: Fatal in contact with skin.
Skin corrosion, (Sub-category 1B)	H314: Causes severe skin burns and eye damage.
Serious eye damage, (Category 1)	H318: Causes serious eye damage.
Short-term (acute) aquatic hazard, (Category 1)	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, (Category 1)	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal Word	Danger
Hazard Statements	
H228	Flammable solid.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H300 + H310 + H330	Fatal if swallowed, in contact with skin or if inhaled. H314
	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P231 + P232	Handle and store contents under inert gas. Protect from moisture.
P260	Do not breathe dust.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

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SAFETY DATA SHEET
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Product name LiverAce® COMBO Kit
Sodium cyanoborohydride (Reducing Agent)

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 +
P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)
EUH032 Contact with acids liberates very toxic gas.

Reduced Labeling (<= 125 mL)

Pictogram



Signal Word Danger

Hazard Statements

H314 Causes severe skin burns and eye damage.
H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.

Precautionary Statements

P260 Do not breathe dust.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)
EUH032 Contact with acids liberates very toxic gas.

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.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3. Composition/information on ingredients

Substance

Synonyms	: Sodium cyanotrihydridoborate
Formula	: NaBH ₃ CN
Molecular weight	: 62,84 g/mol
CAS-No.	: 25895-60-7
EC-No.	: 247-317-2

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product name

LiverAce® COMBO Kit

Sodium cyanoborohydride (Reducing Agent)

Component		Classification	Concentration
sodium cyanoborohydride			
CAS-No.	25895-60-7	Flam. Sol. 1; Water-react 1; Acute Tox. 2; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H228, H260, H300, H330, H310, H314, H318, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10	<= 100 %
EC-No.	247-317-2		

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

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call-in physician. If breathing stops: immediately apply artificial respiration, if necessary, also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call-in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

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 information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

Foam Water

5.2 Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

May not get in touch with: Water

Forms explosive mixtures with air on intense heating.

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Product name LiverAce® COMBO Kit
Sodium cyanoborohydride (Reducing Agent)

Development of hazardous combustion gases or vapours possible in the event of fire.
Caution! in contact with water product releases:
Hydrogen

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment, see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Sodium azide and other inorganic azides (including explosive heavy metal azides) can be rendered harmless by spraying with or immersion into a 0.1 N solution of ammonium (IV) nitrate in 2 N perchloric acid.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Keep workplace dry. Do not allow product to come into contact with water.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

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Product name LiverAce® COMBO Kit
Sodium cyanoborohydride (Reducing Agent)

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Never allow product to get in contact with water during storage. Do not store near acids.

Over time, pressure may increase causing containers to burst hygroscopic Handle and store under inert gas.

Storage class

Storage class (TRGS 510): 4.3: Hazardous materials, which set free flammable gases upon contact with water

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

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eyeface protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

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Product name LiverAce® COMBO Kit
 Sodium cyanoborohydride (Reducing Agent)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | | |
|----|--|--|
| a) | Physical state | powder |
| b) | Color | beigewhite |
| c) | Odor | No data available |
| d) | Melting point/freezing point | Melting point/range: > 242 °C - dec. |
| e) | Initial boiling point and boiling range | No data available |
| f) | Flammability (solid, gas) | The substance or mixture is a flammable solid with the category 1. |
| g) | Upper/lower flammability or explosive limits | No data available |
| h) | Flash point | 70 °C - closed cup |
| i) | Autoignition temperature | 220 °C |
| j) | Decomposition temperature | No data available |
| k) | pH | No data available |
| l) | Viscosity | Viscosity, kinematic: No data available
Viscosity, dynamic: No data available |
| m) | Water solubility | 2.100 g/l at 20 °C - (slow decomposition) |
| a) | Partition coefficient n-octanol/water | No data available |
| b) | Vapor pressure | No data available |
| c) | Density | 1,12 g/cm ³ at 28 °C |
| | Relative density | No data available |
| d) | Relative vapor density | No data available |
| e) | Particle characteristics | No data available |
| f) | Explosive properties | Not classified as explosive. |

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Product name

LiverAce® COMBO Kit

Sodium cyanoborohydride (Reducing Agent)

9.3 Other safety information

No data available

SECTION 10. Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Contact with acids liberates very toxic gas.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

Water

(generation of hydrogen) Violent reactions possible with:

Oxidizing agents

Generates dangerous gases or fumes in contact with: Acids

10.4 Conditions to avoid

Exposure to moisture.

Strong heating.

Moisture.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5.

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according to Regulation (EC) No. 1907/2006

Product name

LiverAce® COMBO Kit

Sodium cyanoborohydride (Reducing Agent)

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate: Oral - 5,1 mg/kg

(Expert judgment)

Acute toxicity estimate: Inhalation - 4 h - 0,051 mg/l - dust/mist

(Expert judgment)

Acute toxicity estimate: Dermal - 50,1 mg/kg

(Expert judgment)

Skin corrosion/irritation

Remarks: Causes skin burns

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Risk of blindness!

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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The following applies to boron compounds in general: resorption is followed by nausea and vomiting,

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Product name LiverAce® COMBO Kit
Sodium cyanoborohydride (Reducing Agent)

agitation, spasms, CNS disorders, cardiovascular disorders.

The following applies to cyanogen compounds/ nitriles in general: utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

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

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

12.12 Other adverse effects

No data available

SECTION 13. Disposal considerations

Waste treatment methods

No data available

14. Transport information

14.1 UN number

ADR/RID: 3132

IMDG: 3132

IATA: 3132

14.2 UN proper shipping name

ADR/RID: WATER-REACTIVE SOLID, FLAMMABLE, N.O.S. (sodium cyanoborohydride) IMDG:
WATER-REACTIVE SOLID, FLAMMABLE, N.O.S. (sodium cyanoborohydride) IATA:
Water-reactive solid, flammable, n.o.s. (sodium cyanoborohydride) Passenger

Aircraft: Not permitted for transport

14.3 Transport hazard class(es)

ADR/RID: 4.3 (4.1)

IMDG: 4.3 (4.1)

IATA: 4.3 (4.1)

14.4 Packaging group

ADR/RID: I

IMDG: I

IATA: I

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (E)

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Product name LiverAce® COMBO Kit
 Sodium cyanoborohydride (Reducing Agent)

Further information : No data available

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

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

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

H2 ACUTE TOXIC
E1 ENVIRONMENTAL HAZARDS
O2 OTHER HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.4 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.

H228	Flammable solid.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 20.06.2024

Version 1.0

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

1.1 Product identifier

Product name LiverAce® COMBO Kit

DL-Dithiothreitol (Additive 1)

REACH No. This product is a mixture. REACH Registration Number see section 3.

1.6 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.7 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
Avenida de la Innovación, 1
18016 Granada, Spain
+34660159779
www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Skin irritation (Category 2), H315 Serious eye damage
(Category 1), H318

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

Danger

Hazard statement(s)

H315

Causes skin irritation.

H318	Causes serious eye damage.
Precautionary statement(s)	
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ eye protection/ face protection.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention. P362 +
P364	Take off contaminated clothing and wash it before reuse.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)
Pictogram



Signal Word Danger

Hazard statement(s)
H318 Causes serious eye damage.

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

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 Mixtures

Synonyms : DTT
(±)-threo-1,4-Dimercapto-2,3-butanediolsolution

Formula : C₄H₁₀O₂S₂
Molecular weight : 154,25 g/mol

Component	Classification	Concentration
(R*, R*)-1,4-Dimercapto-2,3-butanediol		
CAS-No. 3483-12-3	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; H302, H315, H318	>= 10 - < 20 %
EC-No. 222-468-7		
*		

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006,

the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call-in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). 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 extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides Sulfur

oxides Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

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

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities Storage

conditions

Tightly closed.

Storage class

Storage class (TRGS 510): 12: Non-Combustible Liquids

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

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eyeface protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

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 EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
protective clothing

Respiratory protection
required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|-------------------|
| a) Physical state | liquid |
| b) Color | No data available |
| c) Odor | No data available |
| d) Melting point/freezing point | No data available |
| e) Initial boiling point and boiling range | No data available |
| f) Flammability (solid, gas) | No data available |
| g) Upper/lower flammability or explosive limits | No data available |

h)	Flash point	No data available
i)	Autoignition temperature	Not applicable No
j)	Decomposition temperature	data available
k)	pH	No data available
l)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m)	Water solubility	at 20 °C soluble
n)	Partition coefficient: n-octanol/water	No data available
o)	Vapor pressure	No data available
p)	Density	1,035 g/cm ³ at 25 °C
	Relative density	No data available
q)	Relative vapor density	No data available No
r)	Particle characteristics	data available
s)	Explosive properties	Not classified as explosive.
t)	Oxidizing properties	none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Bases, Oxidizing agents, Alkali metals, Reducing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Oral: No data available

Acute toxicity estimate: Oral - > 2.000 mg/kg (Calculation method)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Symptoms: Possible symptoms, mucosal irritations Dermal:

No data available

Skin corrosion/irritation

Remarks: Mixture causes skin irritation.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

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

11.2 Additional Information

Endocrine disrupting properties Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

(R*, R*)-1,4-Dimercapto-2,3-butanediol Acute

toxicity

LD50 Oral - Rat - female - 300 - 2.000 mg/kg (OECD Test Guideline 423)

Inhalation: No data available Dermal: No data available

Skin corrosion/irritation

Skin - human skin

Result: Skin irritation - 1 h (OECD Test Guideline 439)

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Respiratory or skin sensitization Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium Result: negative

Carcinogenicity

No data available

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

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

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 Endocrine disrupting properties Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

Components

(R*,R*)-1,4-Dimercapto-2,3-butanediol

Toxicity to daphnia
and other aquatic
invertebrates

static test EC50 - Daphnia magna (Water flea) - 34,8 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae

static test ErC50 - Pseudokirchneriella subcapitata - 24,3 mg/l
- 72 h
(OECD Test Guideline 201)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

Further information

Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

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

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

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

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.
H315	Causes skin irritation.
H318	Causes serious eye damage.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 20.06.2024

Version 1.0

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.2 Product identifier**

Product name LiverAce® COMBO Kit

Proteinase K (Additive 2)

REACH No. This product is a mixture. REACH Registration Number see section 3.

1.8 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.9 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
Avenida de la Innovación, 1
18016 Granada, Spain
+34660159779
www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Respiratory sensitization (Category 1), H334

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

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word

Danger

Hazard statement(s)

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statement(s)

P261

Avoid breathing mist or vapors.

P284

Wear respiratory protection.

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.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component		Classification	Concentration
Proteinase K			
CAS-No.	39450-01-6	Skin Irrit. 2; Eye Irrit. 2; Resp. Sens. 1; STOT SE 3; H315, H319, H334, H335	>= 1 - < 10 %
EC-No.	934-013-6		
Index-No.	647-014-00-9 *		

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline. 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

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). 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 extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides Not
combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

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

5.4 Further information

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

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

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons.

Recommended storage temperature, see product label.

Storage class

Storage class (TRGS 510): 12: Non-Combustible Liquids

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

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

8.3 Eye/face protection

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

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: >

480 min Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the

designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: >

480 min Material tested: KCL 741 Dermatril® L

8.4 Body Protection

Protective clothing

8.5 Respiratory protection

Required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state	liquid
b) Color	colorless
c) Odor	odorless
d) Melting point/freezing point	No data available
e) Initial boiling point and boiling range	No data available
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	Not applicable
i) Autoignition temperature	Not applicable No
j) Decomposition temperature	data available
k) pH	7,5 at 25 °C (undiluted)
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	at 25 °C soluble
n) Partition coefficient: n-	octanol/water

No data available

- | | |
|-----------------------------|--------------------------------------|
| o) Vapor pressure | No data available |
| p) Density | 1,10 g/cm ³ at 20 °C |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle Characteristics | No data available |
| s) Explosive properties | none
Not classified as explosive. |
| t) Oxidizing properties | none
none |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4 Conditions to avoid

No information available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Oral: No data available Inhalation: No data available Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

Mixture may cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data availableAspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

Components Proteinase K

Acute toxicity

Oral: No data available Inhalation:

No data available Dermal: No data available

Skin corrosion/irritation

Remarks: Causes skin irritation.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Remarks: Causes serious eye irritation.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information**12.1 Toxicity****Mixture**

No data available

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 Endocrine disrupting properties Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

Components

Proteinase K

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: -

IMDG: -

IATA: **-UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG:
Not dangerous goods

Not dangerous goods IATA:

14.2 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.3 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.4 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.5 Special precautions for user

No data available

Further information

Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

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

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

Authorisations and/or restrictions on use

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

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.

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	
H335	May cause allergy or asthma symptoms or breathing difficulties if inhale

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 20.06.2024

Version 1.0

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

1.3 Product identifier

Product name LiverAce® COMBO Kit

COMBO Lysis Buffer

REACH No. This product is a mixture. REACH Registration Number see section 3.

1.10 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for development and research

1.11 Details of the supplier of the safety data sheet

Company Destina Genomica S.L
Avenida de la Innovación, 1
18016 Granada, Spain
+34660159779
www.destinagenomics.com

1.4 Emergency telephone number

National Poisons Information Centre
General public: Call +34 915620420, 24h,
7 days a week

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

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

2.2. Label elements

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

Hazard statements

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

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

No information available.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

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

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact upper eyelids.	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No information available.

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Effects of Exposure No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency

procedures Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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 Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

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

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510) Storage class 10.

7.3. Specific end use(s)

Risk management methods [RMM] The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits
occupational This product, as supplied, does not contain any hazardous materials with exposure limits established by the region specific regulatory bodies.

**Biological
occupational
exposure limits** This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
LiCl 7447-41-8	-	73.2 mg/kg bw/day [4] [6]	10 mg/m ³ [4] [6] 30 mg/m ³ [4] [7]
Tris-HCl 1185-53-1	-	216.6 mg/kg bw/day [4] [6]	152.8 mg/m ³ [4] [6]
LiDS 2044-56-6	-	433.3 mg/kg bw/day [4] [6]	7.6 mg/m ³ [4] [6]
Ethylenediamine tetraacetic acid 60-00-4	-	-	1.5 mg/m ³ [5] [6] 3 mg/m ³ [5] [7]

Notes

- [4] Systemic health effects.
 [5] Local health effects.
 [6] Long term.
 [7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
LiCl 7447-41-8	7.32 mg/kg bw/day [4] [6] 21.96 mg/kg bw/day [4] [7]	50 mg/kg bw/day [4] [6] 50 mg/kg bw/day [4] [7]	10 mg/m ³ [4] [6] 30 mg/m ³ [4] [7]
Tris-HCl 1185-53-1	10.8 mg/kg bw/day [4] [6]	-	37.7 mg/m ³ [4] [6]
LiDS 2044-56-6	2.6 mg/kg bw/day [4] [6]	-	2.26 mg/m ³ [4] [6]
Ethylenediamine tetraacetic acid 60-00-4	25 mg/kg bw/day [4] [6]	-	0.6 mg/m ³ [5] [6] 1.2 mg/m ³ [5] [7]

Notes

- [4] Systemic health effects.
 [5] Local health effects.
 [6] Long term.
 [7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
LiCl 7447-41-8	10.4 mg/L	10.4 mg/L	1.04 mg/L	-	-
LiDS 2044-56-6	0.088 mg/L	0.055 mg/L	0.0088 mg/L	-	-
Ethylenediamine tetraacetic acid 60-00-4	2.2 mg/L	1.2 mg/L	0.22 mg/L	-	-

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Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
LiCl 7447-41-8	49.9 mg/kg sediment dw	4.99 mg/kg sediment dw	140.2 mg/L	4.13 mg/kg soil dw	-
LiDS 2044-56-6	3.098 mg/kg sediment dw	0.3098 mg/kg sediment dw	1.35 mg/L	0.577 mg/kg soil dw	-
Ethylenediamine tetraacetic acid 60-00-4	-	-	43 mg/L	0.72 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls No information available.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

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

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known

Upper flammability or explosive limits	No data available
Lower flammability or explosive limits	No data available

Flash point	No data available	None known
Autoignition temperature	200 °C	
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapor pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Vapor density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1.Reactivity

Reactivity	No information available.
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10.2.Chemical stability

Stability	Stable under normal conditions.
-----------	---------------------------------

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008. Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS

document ATEmix (oral)	25,047.60 mg/kg
ATEmix (dermal)	95,238.10 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity	No information available.
Reproductive toxicity	No information available.

STOT - single exposure	No information available.
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STOT - repeated exposure	No information available.
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Aspiration hazard	No information available.
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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties	No information available.
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11.2.2. Other information

Other adverse effects	No information available.
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SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity	Contains 0 % of components with unknown hazards to the aquatic environment.
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12.2. Persistence and degradability

Persistence and degradability	No information available.
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12.3. Bioaccumulative potential

Bioaccumulation	There is no data for this product.
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12.4. Mobility in soil

Mobility in soil	No information available.
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12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment	No information available.
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12.6. Endocrine disrupting properties

Endocrine disrupting properties	No information available.
--	---------------------------

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 Extended Proper Shipping Name	Not regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	
None	

IMDG

14.1 UN number or ID number	Not regulated
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14.2	Extended Proper Shipping Name	Not regulated
14.3	Transport hazard class(es)	Not regulated
14.4	Packing group	Not regulated
14.5	Environmental hazard	Not applicable
14.6	Special precautions for user	
	Special Provisions	
	None	
14.7	Maritime transport in bulk according to IMO instruments	No information available

RID

14.1	UN/ID No	Not regulated
14.2	Extended Proper Shipping Name	Not regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	
None	

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	
None	

SECTION 15: Regulatory information

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

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 agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

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

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

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

ENCS - Japan Existing and New Chemical

Substances **IECSC** - China Inventory of Existing

Chemical Substances **KECL** - Korean Existing and
 Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend	Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION		
TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation