

1. PRODUCT & COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: Nereus LentiHERO™
Product Code(s): NL100100
Unique Formula Identifier (UFI): N/A

1.2 Relevant identified uses of the substance & uses advised against

Identified uses: Bioseparation material for purification of therapeutic proteins
Uses advised against: No specific uses advised against

Note: This product is for research use only.

1.3 Details of the supplier of the safety data sheet

Manufacturers Name: Astrea Bioseparations Ltd
Address: The Freeport, Ballasalla
Isle of Man
IM9 2AP
British Isles
Telephone number: +44 (0) 1624 821450
Fax number: +44 (0) 1624 821451
Email address: Sales@Astrea-bio.com

1.4 Emergency telephone number

Emergency phone number: +44 (0) 1624 821450
Hours of operation: GMT, English spoken, Mon-Fri 09.00 – 17.00

UK national advisory body / poison centre:

Health professionals should contact the national poisons information service (NPIS) by telephone or use TOXBASE www.toxbase.org.
NPIS <http://www.npis.org/> advise that others seeking specific information on poisons should contact as followed:

In England and Wales: NHS direct – 0845 46 47 or 111

In Scotland: NHS 24 – 08454 24 24 24

In N Ireland: Contact your local GP or pharmacist during normal hours: or www.gpoutofhours.hscni.net for GP services out-of-hours.

European emergency contact numbers:

In Spain: National Emergency Telephone Number - (00) +34 91 562 04 20

In Italy: Ministry of Health – (00) +39 06 59 94 37 33

International emergency contact numbers:

In America: Contact American Association of Poison Control Centers - 1-800-222-1222

In Canada: Contact National Association of Pharmacy Regulatory Authorities for local number via www.NAPRA.org or (613) 569-9658

In Russia: Anti Poison Centre - (495) 628 1687 (Moscow), (921) 757 3228 (St Petersburg)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flammable liquids (Category 3)
Causes eye and skin irritation (Category 2)
Causes respiratory system irritation (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Flammable. Irritating to eyes, respiratory system and skin.

2.2 Label elements

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

Pictogram:



Signal Word

Hazard Statement(s):

H226

H315

H319

H335

Precautionary statement(s)

P210

P261

P262

P264

P280

P302+352

P304+340

P305+351+338

Warning

Flammable liquid and vapour

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

Keep away from heat/sparks/open flames/hot surfaces – No smoking

Avoid breathing dust/fumes/gas/mist/vapours/spray

Do not get in eyes, on skin or on clothing

Wash hands thoroughly after handling

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

If on SKIN: wash with plenty of soap and water

If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

If in EYE: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2. HAZARDS IDENTIFICATION

P314	Get medical advice / attention if you feel unwell
P333+313	If SKIN irritation or rash occurs: Get medical advice/attention
P342+311	If experiencing respiratory symptoms: call a POISON CENTRE or doctor/physician
P337+313	If EYE irritation persists: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
P403+ 233	Store in a well-ventilated place. Keep tightly closed

2.3. Other hazards

Substance meets the criteria for vPvB and PBT according to Regulation (EC) No 1907/2006, Annex XIII
Substance is not identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100

3. COMPOSITION / INFORMATION ON INGREDIENTS

3. Substance / Mixture: Mixture

Component	Identifiers	%	Classification	
			67/548/EEC	Reg (EC) No. 1272/2008 [CLP]
Ethanol	REACH no: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	20	F; R11 Highly Flammable	Flam Liq 2, H225 Highly flammable liquid and vapour
2-Diethylaminoethyl-polycellulose hydrochloride	REACH no: N/A EC: N/A CAS: Index: N/A	< 10	No known classifications according to directive 67/548/EEC	No known classifications according to CLP directive

No other components of this preparation are known by the supplier to exceed concentration thresholds for health or environmental hazard, Community workplace exposure limits, or are PBTs or vPvBs. These components are therefore not reported in this section.

4. FIRST AID MEASURES

4.1. Description of first aid measures

General Advice:

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

If inhaled:

Remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice if symptoms occur.

In case of skin contact:

Remove contaminated clothing and shoes. Immediately flush skin with copious amounts of cold water for at least 10 minutes and then wash with soap and water. Wash clothes and shoes before reuse.

In case of eye contact:

Check for and remove any contact lenses. Immediately flush eye with copious amounts of water, occasionally lifting upper and lower eyelids for at least 10 minutes.

If swallowed:

Wash out mouth with cold water provided person is conscious. Remove dentures if any. Seek medical advice. Do not induce vomiting unless directed by a physician. 20% Ethanol may cause alcoholic poisoning if ingested in large quantities.

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

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

4.3. Indication of any immediate medical attention and special treatments needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water spray, dry chemical powder or appropriate foam.

5.2. Special hazards arising from the substance or mixture

May emit toxic fumes under fire conditions. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing conforming to European standard EN 469 to prevent contact with skin and eyes. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

5.4. Further Information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment & emergency procedures

Wear chemical safety goggles, splash suit, rubber boots and gloves. Do not touch spilled material. Provide adequate ventilation

6.2. Environmental precautions

Prevent further leakage if safe to do so. Do not let product enter drains and contact soil, waterways, drains and sewers. Inform the relevant authorities if the product caused environmental pollution.

6.3. Methods and materials for containment & cleaning up

Mop up with absorbent paper. In case of large volumes, use sand or other inert material. Place in a bag/other appropriate non-hazardous container and hold away from ignition sources/ heat for waste disposal. Ventilate area and wash spill site with water after material pickup is complete.

7. HANDLING & STORAGE

7.1. Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry place (2 - 30°C) in original sealed containers away from heat sources and sunlight. Avoid contact with strong oxidants and strong acids.

7.3. Specific end uses

Bioseparation material for purification of therapeutic modalities

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Components with workplace control parameters

Product / Ingredient Name	Exposure limit values
Ethanol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 1920 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DELs available

PNECs

No PECs available

EXPOSURE CONTROLS / PERSONAL PROTECTION

8.2. Exposure controls

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protective equipment:

Eye/face protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Recommended: safety glasses with side-shields.

Hand protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. 1 - 4 hours (breakthrough time): butyl rubber, neoprene.

Skin and body protection:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
Recommended: lab coat.

Respiratory protection:

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: A respirator is not needed under normal and intended conditions of product use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	non-woven fiber, retained in plastic housing – fiber component is suspended in liquid
Colour:	White
Odour:	Slight odour of alcohol. Odour threshold 180ppm
Melting point:	260°C
Boiling point:	Lowest is 86°C (for ethanol component at 20% concentration)
Fire hazards in presence of various substances:	May be flammable in present of open flames, sparks and heat.
Explosive properties:	No risk
Lower explosion limit:	The greatest known range is 3.3-19% (for ethanol component at 100% concentration)
Flash point:	Lowest is 36°C (for ethanol component at 20% concentration)
Auto-ignition temperature:	Lowest 365°C (for ethanol component at 100% concentration)
Decomposition temperature:	N/A (material not self-reactive)
Oxidising properties:	No data available
Evaporation rate:	No data available for 20% ethanol
Particle characteristics:	No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No specific test data related to reactivity available for this product

10.2 Chemical stability

Stable at normal temperatures and storage conditions

10.3 Possibility of hazardous reaction

Hazardous reactions will not occur under normal conditions of storage and use

10.4 Conditions to avoid

Heat, flames and sparks

STABILITY AND REACTIVITY

10.5 Incompatible materials

Strong oxidants and acids

10.6 Hazardous decomposition products

Thermal decomposition may yield oxides of carbon.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available for mixture. Component with greatest known toxicity is ethanol with oral LD₅₀ 7060mg/kg (rat).

Skin corrosion / irritation

Causes skin irritation and irritation of mucous membranes

Serious eye damage / eye irritation

Causes eye irritation

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available for this mixture

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

Potential health effects

No data available

Signs and symptoms of exposure

No data available

Additional information

No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

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

No data available

12.6 Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100.

12.7 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Within the present knowledge, this material is not regarded as hazardous waste.

Products:

Solid – Where possible incinerate any waste Nereus LentiHERO™ product, or where not possible dispose of as contaminated waste in accordance with national and local environmental regulations. Plastic components, where separated completely, can be recycled.

Liquid – Dispose of as solvent waste in accordance with national and local environmental regulations.

Contaminated Packaging:

Dispose of as unused product.

14. TRANSPORT INFORMATION

	ADR	IMDG	IATA
14.1 UN number	Not regulated		Not regulated
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazard	No	No	No
Additional Information	Special provision 144 – An aqueous solution containing not more than 24% alcohol by volume is not subject to the requirements of ADR.	Special provision 144 – An aqueous solution containing not more than 24% alcohol by volume is not subject to the provisions of this Code.	Special provision A58 – An aqueous solution containing 24% or less alcohol by volume is not subject to these Regulations.

14.6 Special precautions for user

Always transport in closed containers. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments

Not available

15. REGULATORY INFORMATION

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

No data available

15.2 Chemical safety assessment

This product contains substances for which Chemical Safety Assessments are still required.

16. OTHER INFORMATION

Issue number: 3
 Issue date: 09 Nov 2022
 Effective date: 09 Nov 2022
 Revision date: 09 Nov 2025

Notice to Reader:

To the best of our knowledge the information contained herein is accurate. However, neither the names supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein we cannot guarantee that these are the only hazards that exist.

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