

## Section 1 - Product and Company Information

**Product Name** Recombinant Listeriolysin O Protein (LLO)      **Catalog#** 232566  
**Application of the substance or mixture:** Not for human use. For research use only.  
**Company** Aurora Biolabs, LLC  
**Address** 7270 Trade Street, Suite 103  
San Diego, CA, 92121, USA  
**Technical Phone:** 858-453-5700      **Fax:** 855-898-3979  
**Internet:** [www.aurorabiolabs.com](http://www.aurorabiolabs.com)      **Email:** [info@aurorabiolabs.com](mailto:info@aurorabiolabs.com)  
**Emergency Phone:** 858-453-5700 or 858-215-4510

## Section 2 - Hazards Identification

### Classification of the substance or mixture

This substance does not meet the classification criteria of the EC Directives 67/548/EEC, 1999/45/EC, 1272/2008 [CLP], GHS or 29 CFR 1910.1200 [OSHA].

### Label Elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

**Other Hazards** - None

## Section 3 - Composition/Information on Ingredient

### Substances

Not applicable.

### Mixtures

This product does not contain hazardous chemicals at concentrations of 1% or greater. This product is not known to contain carcinogens at concentrations of 0.1% or greater.

## Section 4 - First Aid Measures

### Eye contact

May cause eye irritation. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### Skin contact

May cause skin irritation. Wash off with soap and plenty of water.

### Inhalation

No recognized inhalation hazard. If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

### Ingestion

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

## Section 5 - Fire Fighting Measures

### Classification of substance

The product is non-flammable.

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**Suitable extinguishing media**

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

**Special protective equipment for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**Section 6 - Accidental Release Measures**

**Person-related safety precautions**

Use standard laboratory practices and appropriate personal protective equipment to prevent contamination of skin, eyes and personal clothing. Avoid breathing dust. Ensure adequate ventilation.

**Measures for containment and cleaning**

Sweep up, place in a bag and dispose of as per section 13. Keep in suitable, closed containers for disposal. Wash the spill site after material is picked up.

**Section 7 - Handling and Storage**

**Precautions for safe handling**

Avoid contact with eyes and skin. No special precautions are necessary if used appropriately.

**Conditions for safe storage**

Store frozen until needed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in incompatible containers. See product datasheet for more information on handling and storage.

**Section 8 - Exposure Controls / PPE**

**Control Parameters**

Contains no substances with occupational exposure limit values.

**Engineering Controls**

Ensure adequate ventilation. Use appropriate personal protective work clothing. Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

**Eye/face protection**

Wear approved safety goggles.

**Skin/hand protection**

Handle with protective gloves, plastic or rubber. 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.

**Body protection**

Wear suitable protective clothing as protection against splashing or contamination.

**Other skin protection**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

**Respiratory protection**

In case of inadequate ventilation, use a suitable respirator. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

**Section 9 - Physical and Chemical Properties**

Appearance	clear liquid	Vapor Pressure	No data available.
Odor	Little to none	Vapor Density	No data available.
Odor Threshold	No data available.	Relative Density	No data available.
pH	No data available.	Solubility(ies)	No data available.
Melting / Freezing Point	No data available.	Partition Coefficient	No data available.
Boiling Point / Range	No data available.	Autoignition Temperature	No data available.
Flash Point	No data available.	Decomposition Temperature	No data available.
Evaporation Rate	No data available.	Viscosity	No data available.
Flammability (Solid, Gas)	No data available.	Explosive Properties	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	Oxidizing Properties	No data available.

**Section 10 - Stability and Reactivity**

**Reactivity:** Stable under recommended transport or storage conditions.

**Chemical stability:** Stable under recommended storage conditions.

**Possibility of hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

**Conditions to avoid:** Heat, moisture.

**Incompatible materials:** Strong acids/alkalis, strong oxidizing/reducing agents.

**Hazardous decomposition products:** None determined

**Section 11 - Toxicological Information**

**Acute toxicity:** Not available.

**Skin corrosion/irritation:** Not available.

**Serious eye damage/irritation:** Not available.

**Respiratory or skin sensitization:** Not available.

**Germ cell mutagenicity:** Not available.

**Carcinogenicity:** IARC: Not available.

**Reproductive toxicity:** Not available.

**Specific target organ toxicity (STOT):** Not available.

**Specific target organ toxicity (STOT) - repeated exposure:** Not available.

**Aspiration hazard:** Not available.

**Information on likely routes of exposure:** Routes of entry anticipated; oral, dermal, inhalation.

**Short term exposure / Potential immediate effects:** Not available.

**Potential delayed effects:** Not available.

**Long term (chronic) exposure: Potential immediate effects:** Not available.

**Potential delayed effects:** Not available.

**Numerical measures of toxicity:** Not available.

**Other Information:** Not available.

**Section 12 - Ecological Information**

**Ecotoxicity effects:** No information available.

**Mobility:** No information available.  
**Biodegradation:** Inherently biodegradable.  
**Bioaccumulation:** Does not bioaccumulate.

## Section 13 - Disposal Considerations

**Disposal methods:** Dispose of waste in accordance to applicable national, regional, or local regulations.  
**Contaminated packaging:** Dispose in the same manner as unused product.  
**Special precautions:** Dispose of small amounts of spilled material as described in section 6.  
Large spills must be dealt with separately by qualified disposal personnel.  
Avoid dispersal of spilt material to soil, waterways, drains and sewers.

## Section 14 - Transportation Information

Proper Shipping Name: None  
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.  
**Transportation Information**

### IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

**IMDG:** Non-hazardous for sea freight.

**ADR:** Non-hazardous for road transport.

**RID:** Non-hazardous for rail transport.

**Other information:** The preparation may be stored in ice during the transportation.

## Section 15 - Regulatory Information

### US Federal and State Regulations

**TSCA (Toxic Substances Control Act):** Not applicable.

**SARA 313:** Not applicable.

**SARA 311/312 Hazards:** Not applicable.

**CERCLA Reportable Quantity:** Not applicable.

**California Proposition 65:** Not applicable.

**European Union:** This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

## Section 16 - Other Information

Aurora Biolabs, LLC. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists. Final determination of suitability of any material is the 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.

End of safety data sheet