MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

- **Product name: NanOZ LNP saRNA(F-LUC)**
  - **Catalog number: LNPSA20500, LNPSA21000, LNPSA25000.**
  - **Chemical name or synonyms:**
  - **Contact:**

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SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification

Not classified as Hazardous

GHS Label element

Signal Word:	None
Hazard Statements:	None
Pictograms:	None

This product contains hazardous ingredients (Yes; No; Not Applicable or no information): **No.**
This product contains hazardous carcinogens (Yes; No; N/A): **No**
This product contains hazardous ingredients to the environment. (Yes; No; N/A): **No**

SECTION 3 – COMPOSITION, INFORMATION ON INGREDIENTS

Description: Unmodified saRNA encoding Firefly Luciferase protein formulated in a proprietary Lipid Nanoparticle (0.1 mg/mL saRNA in LNPs) formulation.

Chemical	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH RegistrationNumber
Water	231-791-2	7732-18-5	**	Not Listed	
Sucrose	200-334-9	57-50-1	<10	Not Listed	
Sodium Chloride	231-598-3	7647-14-5	<10	Not Listed	
OZB2 Ionizable lipid	Not Listed	Not Assigned	<2	Not Listed	
unmodified (F-LUC) saRNA	Not Listed	Not Assigned	<1	Not Listed	
Cholesterol	200-353-2	57-88-5	<1	Not Listed	
Potassium dihydrogenophosphate	231-913-4	7778-77-0	<1	Not Listed	
Potassium Chloride	231-211-8	7447-40-7	<1	Not Listed	
Disodium hydrogenophosphate dihydrate	Not Listed	10028-24-7	<1	Not Listed	
1,2-Dimyristoyl-rac-glycero-3-methoxypolyethylene glycol-2000 (DMG-PEG-2000)	Not Listed	160743-62-4	<1	Not Listed	
1,2-Distearoyl-sn-glycero-3 -phosphocholine	212-440-2	816-94-4	<1	Not Listed	

Ingredients are not hazardous or their concentrations do not exceed the limit specified according to 29 CFR 1910.1200 Hazard Communication Standard (USA) and Directive 1999/45/EC-2001/59/EC (EU).

**This is proprietary and confidential information.

SECTION 4 – FIRST AID MEASURES

Effects and symptoms:

- *Inhalation* May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
- *Ingestion* May be harmful in case of ingestion.
- *Skin contact* May cause skin irritation, redness, itching.
- *Eye contact* Slightly hazardous in case of eye contact.
- *Aggravating conditions* Chronic exposure may develop allergic reactions in sensitive individuals.

First-Aid measures:

- *Inhalation* If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
- *Ingestion* If swallowed, wash out mouth with water provided person is conscious. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- *Skin contact* In case of contact, immediately wash skin with soap and copious amounts of water.
- *Eye contact* In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
- *Notes to physician* Not available.
- *Protection of first-aiders* Not available.

SECTION 5 – FIRE FIGHTING MEASURES

- **Extinguishing media:** Water spray, carbon dioxide, dry chemical powder or appropriate foam.
- **Flammability of the product:** Not available.
- **Flash Point:** Not available.
- **Fire hazards in presence of various substances:** Not considered to be flammable.
- **Fire fighting media and instructions:** Use an extinguish agent suitable for surrounding fires.
- **Protective clothing (fire):** Be sure to use an approved/certified respirator or equivalent.
- **Hazardous thermal decomposition products:** Not available.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Safety glasses, lab coat and gloves.
- **Environmental precautions and clean-up methods:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.
- **Small spill and leak:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
- **Additional information:** No dangerous substances are released.

SECTION 7 – HANDLING AND STORAGE

- **Handling:** Avoid contact with skin, eyes and clothing. Avoid prolonged or repeated exposure.
- **Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Store at - 80°C for long-term storage.
- **Intended use:** Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific application.
- **Packaging materials suitable:** Use original container.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

- **Engineering Controls**: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
- **Personal protection**
  - **Eyes:** Safety glasses.
  - **Body:** Lab coat and gloves.
  - **Respiratory:** Respirator is not needed under normal and intended conditions of use, if exposures are kept below established limits.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**
  - **Physical State:** Liquid
  - **Color:** Colorless

- **Odor:** Not available.
- **Taste:** Not available.

- **Molecular weight:** Not available.
- **pH:** **7**.4
- **Boiling point:** 100°C
- **Decomposition temperature:** Not available
- **Melting point:** Not available.
- **Flash point:** Not available.
- **Dispersion properties:** Not applicable.
- **Solubility:** Readily soluble in water.

SECTION 10 – STABILITY AND REACTIVITY

- **Stability and reactivity:** The product is stable under recommended storage conditions.
- **Conditions to avoid**: Exposure to light, air or moisture over prolonged periods.
- **Materials to avoid:** Strong acids, strong bases, strong oxidizing agents.
- **Hazardous polymerization:** Will not occur.
- **Hazardous decomposition products:** Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- **General Information:** Toxicological properties have not been thoroughly investigated. The following information is available for the individual ingredients.

- **Known Clinical Effects:** Based on clinical trials in humans, possible adverse effects following intravenous exposure to this compound may include: muscle pain, abnormal redness of skin (erythema), fever, and sleep disturbances.

- **Acute Toxicity: (Species, Route, End Point, Dose)**

Sucrose
Rat Oral LD 50 29,700 mg/kg

Sodium Chloride
Rat Sub-tenon injection (eye) LC50/1hr > 42 g/m3
Rat Oral LD 50 3 g/kg
Mouse Oral LD 50 4 g/kg
Rabbit Dermal LD 50 > 10 g/kg

Potassium Chloride
Rat Oral LD50 2600 mg/kg

Potassium dihydrogenophosphate
Rat Oral LD50 3200 mg/kg
Rabbit Dermal LC50 > 4640 mg/kg

- **Irritation / Sensitization: (Study Type, Species, Severity)**

Sodium Chloride
Skin Irritation Rabbit Mild Eye Irritation Rabbit Mild

Potassium Chloride
Eye Irritation Rabbit Mild

- **Reproduction & Development Toxicity: (Duration, Species, Route, Dose, End Point, Effect(s))**

Potassium dihydrogenophosphate
Reproductive & Fertility Rat No route specified 282 mg/kg/day NOAEL No evidence of impaired fertility or harm to the fetus
Reproductive & Fertility Mouse No route specified 320 mg/kg/day NOAEL No evidence of impaired fertility or harm to the fetus

- **Genetic Toxicity: (Study Type, Cell Type/Organism, Result)**

Potassium dihydrogenophosphate
Bacterial Mutagenicity (Ames) Salmonella Negative

- **Carcinogenicity See below**

Cholesterol
IARC Group 3 (Not Classifiable)

SECTION 12 – ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties have not been investigated. Releases to the environment should be avoided.

12.1. Toxicity Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

Potassium Chloride Gambusia affinis (Mosquitofish) LC50 96 hours 920 mg/l
Lepomis macrochirus (Bluegill Sunfish) LC50 96 hours 2010 mg/L
Daphnia Magna (Water Flea) EC50 48 hours 825 mg/l
Scenedesmus subspicatus (Green Alga) EC50 72 Hours 2500 mg/L

12.2. Persistence and degradability
Persistence and degradability No information available.

12.3. Bioaccumulative potential
Bioaccumulation No information available.

12.4. Mobility in soil
Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment
PBT and vPvB assessment No information available.

12.6. Other adverse effects
Other adverse effects No information available.

SECTION 13 – DISPOSAL CONSIDERATIONS

- **Waste stream:** Not available.
- **Waste disposal method**: Contact a licensed professional waste disposal service to dispose of this material. Dispose in accordance with governmental environmental regulations. Observe all federal, state, and local environmental regulations.
- **European waste catalogue (EWC):** Not available.
- **Hazardous waste:** Will not occur.

SECTION 14 – TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

D.O.T.: Not regulated.

IATA.: Not regulated.

IMDG: Not regulated.

SECTION 15 – OTHER INFORMATION

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

Water

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
TSCA	Present
EINECS	231-791-2
AICS	Present

Sucrose

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
TSCA	Present
EINECS	200-334-9
AICS	Present

Sodium Chloride

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
TSCA	Present
EINECS	231-598-3
AICS	Present

Potassium dihydrogenophosphate

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
TSCA	Present
EINECS	231-913-4
AICS	Present

Potassium Chloride

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
TSCA	Present
EINECS	231-211-8
AICS	Present
Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)	Schedule 4

Disodium phosphate dihydrate

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
EINECS	Not Listed
AICS	Present
Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)	Schedule 5

Cholesterol

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
TSCA	Present
EINECS	200-353-2
AICS	Present
Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)	Schedule 4

1,2-Distearoyl-sn-glycero-3-phosphocholine

CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
EINECS	212-440-2

15.2. Chemical safety assessment

Chemical Safety Report	No information available

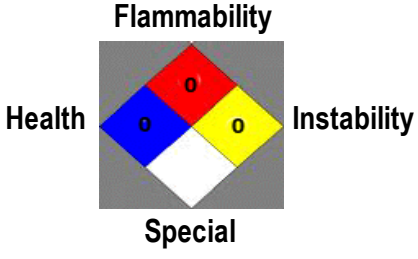
- This product is not classified according to the EU regulations.

SECTION 16– OTHER INFORMATION

- **Hazardous Material Information System (U.S.A.):**

Health	**0**
Fire hazard	**0**
Reactivity	**0**
Personal protection	

- **National Fire Protection Association (U.S.A.):**



0 = not significant	3 = high
1 = slight	4 = extreme
2 = moderate	* = chronic

- **Revisions:**

Issue Date: 03-Nov-2026
Last Revision Date: New Issue
Revision note: N/A.

- **Other Comments:**

To the best of our knowledge, the information contain herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
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.

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