FLUNP

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024 and the Hazardous Products Regulations (HPR) WHMIS 2022
Issue date: 2026-09-18 Revision date: 2026-09-18 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : FLUNP
Product code : Not available

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Calibration Solution Certified Reference Material for Influenza A (H5N1) Nucleoprotein, for laboratory use only

1.4. Supplier's details

National Research Council Canada
1200 Montreal Road
Ottawa, K1A 0R6 - Canada
T 613-993-2359

National Research Council Canada | Conseil national de recherches Canada

1.5. Emergency phone number

Emergency number : Infotrac:
Within North America 1-800-535-5053
International +1-352-323-3500

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Not classified

2.2. Label elements

GHS labelling

No labelling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	Conc. (% w/w)
Water	AQUA	CAS-No.: 7732-18-5	96.88
Sodium chloride	Sodium chloride Sodium salt of hydrochloric acid / Salt / SEA SALT / SODIUM CHLORIDE / Sodium chloride (NaCl) / Sea salt	CAS-No.: 7647-14-5	0.9
L-Arginine	L-Arginine Arginine / Arginine L- / Arginine, L- / l-Arginine / ARGININE / (S)-2-Amino-5-[(aminoiminomethyl)amino]pentanoic acid / arginine	CAS-No.: 74-79-3	0.9
L-Glutamic acid	L-Glutamic acid glutamic acid / Glutamic acid, L(+)- / GLUTAMIC ACID / Glutamic acid, (L+)- / L-Glutaminic acid / Glutaminic acid / Glutamic acid / 1-Aminopropane-1,3-dicarboxylic acid / 2-Aminopentanedioic acid / L-2-Aminoglutaric acid	CAS-No.: 56-86-0	0.7
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt	1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate / 1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, sodium salt (1:1) / N-2-Hydroxyethylpiperazine-N'-2-ethanesulfonic acid, Na / Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulfonate / N-(2-Hydroxyethyl)piperazine-N'-2-ethanesulfonic acid sodium salt / 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid, sodium salt (1:1) / sodium 2-(4-(2-hydroxyethyl)piperazin-1-yl)ethanesulfonate / Sodium 2-[4-(2-hydroxyethyl)piperazin-1-yl]ethane-1-sulphonate / 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid, sodium salt (1:1)	CAS-No.: 75277-39-3	0.6
Influenza A nucleoprotein	Influenza A nucleoprotein	CAS-No.: Not assigned	0.02

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice or attention if you feel unwell.

First-aid measures after skin contact : If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice or attention if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

For non-emergency personnel

No additional information available

For emergency responders

Environmental precautions : Prevent entry to sewers and public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb and contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing dust, fume, gas, mist, vapours, spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

FLUNP	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

Water (7732-18-5)	
ACGIH	Not applicable

Water (7732-18-5)	
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

Sodium chloride (7647-14-5)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

L-Arginine (74-79-3)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

L-Glutamic acid (56-86-0)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt (75277-39-3)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

Influenza A nucleoprotein (Not assigned)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Hand protection:
Wear suitable gloves. Consult glove manufacturer's product information on material suitability and material thickness.

Eye protection:
Safety glasses or goggles are recommended when using product.

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. 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. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	No data available
Colour	:	No data available
Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Flammability (solid, gas)	:	Not flammable
Vapour pressure	:	No data available
Relative vapour density at 20°C/ 68 °F	:	No data available
Relative density	:	No data available

Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosive limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Water (7732-18-5)	
LD50 oral rat	> 90 mL/kg (Source: FOOD_JOURN)

Sodium chloride (7647-14-5)	
LD50 oral rat	3550 mg/kg (Source: ECHA)

Sodium chloride (7647-14-5)	
LD50 dermal rabbit	> 10000 mg/kg bodyweight Animal: rabbit
LC50 inhalation rat	> 42 mg/L (Exposure time: 1 h Source: ECHA_API)

L-Arginine (74-79-3)	
LD50 oral rat	> 5110 mg/kg bodyweight Animal: rat, Guideline: other:

L-Glutamic acid (56-86-0)	
LD50 oral rat	> 30 g/kg (Source: NLM_CIP)
LD50 dermal rat	> 2000 mg/kg (Source: ECHA_API)

1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt (75277-39-3)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

Skin corrosion/irritation : Based on available data, the classification criteria are not met

Serious eye damage/irritation : Based on available data, the classification criteria are not met

Respiratory or skin sensitisation : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Based on available data, the classification criteria are not met

Carcinogenicity : Based on available data, the classification criteria are not met

Reproductive toxicity : Based on available data, the classification criteria are not met

STOT-single exposure : Based on available data, the classification criteria are not met

STOT-repeated exposure : Based on available data, the classification criteria are not met

Aspiration hazard : Based on available data, the classification criteria are not met

FLUNP	
Viscosity, kinematic	No data available

Water (7732-18-5)	
Viscosity, kinematic	No data available

Sodium chloride (7647-14-5)	
Viscosity, kinematic	No data available

L-Arginine (74-79-3)	
Viscosity, kinematic	No data available

L-Glutamic acid (56-86-0)	
Viscosity, kinematic	No data available

1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt (75277-39-3)	
Viscosity, kinematic	No data available

Influenza A nucleoprotein (Not assigned)	
Viscosity, kinematic	No data available

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12 Ecological information

12.1. Ecotoxicity

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

Hazardous to the aquatic environment, short–term (acute) : Not classified.

Hazardous to the aquatic environment, long–term (chronic) : Not classified.

Sodium chloride (7647-14-5)	
LC50 - Fish [1]	5560 – 6080 mg/L (Exposure time: 96 h - Species: *Lepomis macrochirus* [flow-through] Source: EPA)
EC50 - Crustacea [1]	1000 mg/L (Exposure time: 48 h - Species: *Daphnia magna*)
LC50 - Fish [2]	12946 mg/L (Exposure time: 96 h - Species: *Lepomis macrochirus* [static] Source: EPA)
EC50 - Crustacea [2]	340,7 – 469,2 mg/L (Exposure time: 48 h - Species: *Daphnia magna* [Static])
LOEC (chronic)	441 mg/L Test organisms (species): *Daphnia pulex* Duration: '21 d'

Sodium chloride (7647-14-5)	
NOEC (chronic)	314 mg/L Test organisms (species): *Daphnia pulex* Duration: '21 d'

L-Arginine (74-79-3)	
LC50 - Fish [1]	2,8 g/l (Exposure time: 96 h - Species: *Danio rerio* [semi-static] Source: ECHA)

L-Glutamic acid (56-86-0)	
LC50 - Fish [1]	> 100 mg/L (Exposure time: 96 h - Species: *Cyprinus carpio* [static] Source: ECHA)
EC50 - Crustacea [1]	> 100 mg/L Test organisms (species): *Daphnia magna*
EC50 72h - Algae [1]	> 31 mg/L Test organisms (species): *Raphidocelis subcapitata* (previous names: *Pseudokirchneriella subcapitata, Selenastrum capricornutum*)
EC50 72h - Algae [2]	27 mg/L Test organisms (species): *Raphidocelis subcapitata* (previous names: *Pseudokirchneriella subcapitata, Selenastrum capricornutum*)

1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt (75277-39-3)	
EC50 - Crustacea [1]	> 0,1 g/L Test organisms (species): *Daphnia magna*
EC50 - Crustacea [2]	> 0,1 g/L Test organisms (species): *Daphnia magna*
EC50 72h - Algae [1]	> 100 mg/L Test organisms (species): *Raphidocelis subcapitata* (previous names: *Pseudokirchneriella subcapitata, Selenastrum capricornutum*)

12.2. Persistence and degradability

FLUNP	
Persistence and degradability	Not established

Water (7732-18-5)	
Persistence and degradability	Rapidly degradable

Sodium chloride (7647-14-5)	
Persistence and degradability	Rapidly degradable

L-Arginine (74-79-3)	
Persistence and degradability	Rapidly degradable

L-Glutamic acid (56-86-0)	
Persistence and degradability	Rapidly degradable

1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt (75277-39-3)	
Persistence and degradability	Rapidly degradable

Influenza A nucleoprotein (Not assigned)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

FLUNP	
Bioaccumulative potential	Not established

Sodium chloride (7647-14-5)	
BCF - Fish [1]	(no bioaccumulation)

L-Arginine (74-79-3)	
Partition coefficient n-octanol/water	-4,2 (at 20 °C (at pH 7)

L-Glutamic acid (56-86-0)	
Partition coefficient n-octanol/water	< -4 (at 20 °C)

1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-, monosodium salt (75277-39-3)	
Partition coefficient n-octanol/water	< -3,88 (at 20 °C (at pH 7)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13 Disposal considerations

Product/Packaging disposal recommendations : Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and international regulation. The generation of waste should be avoided or minimised wherever possible. Do not mix with other wastes.

SECTION 14 Transport information

In accordance with DOT / TDG

14.1. UN Number

UN-No. (DOT) : Not regulated

UN-No. (TDG) : Not regulated

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Not regulated
Proper Shipping Name (TDG) : Not regulated

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not regulated

TDG
Transport hazard class(es) (TDG) : Not regulated

14.4. Packing group

Packing group (DOT) : Not regulated
Packing group (TDG) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

TDG
Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:	
Influenza A nucleoprotein	CAS-No. Not assigned

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories except for:	
Influenza A nucleoprotein	CAS-No. Not assigned

15.2. International regulations

No additional information available

15.3. State regulations

No additional information available

SECTION 16 Other Information

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024 and the Hazardous Products Regulations (HPR) WHMIS 2022

Revision date	:	2026-09-18
Issue date	:	2026-09-18
Other information	:	None.
Version #	:	1.0
Prepared by	:	Nexreg Compliance Inc. www.Nexreg.com

SDS HazCom 2024 - WHMIS 2022 (Nexreg) 2026 NRC

DISCLAIMER:

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