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

1.1 Product identifier
Product Name: Human Influenza A/New Caledonia/20/99 (H1N1) Purified Virus
Catalog Number: 10-287-500

1.2 Relevant identified uses of the substance or mixture and uses advised against
SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
Manufacturing Supplier: Advanced Biotechnologies, Inc
1545 Progress Way
Eldersburg, MD 21784
Telephone: (410) 792-9779

1.4 Emergency telephone number
24 Hour Emergency Number: ChemTel, Inc 1-800-255-3924

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
This product is not classified as hazardous according to the Regulation (EC) No 1272/2008 and subsequent amendments. This product is not classified as hazardous according to the Globally Harmonized System (GHS). This product is not classified as hazardous according to OSHA GHS regulations within the U.S.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
This product does not have a classification according to the CLP regulation. This product is not classified as hazardous according to the OSHA GHS regulations within the U.S.
GHS Elements: Not Regulated
Hazard Pictograms: Not Regulated
Signal Word: Not Regulated
Hazard-determining components of labelling: None
Hazard statements: Not Regulated

2.3 Other hazards
Hazards Not Otherwise Classified (HNOC) or covered by GHS
This preparation of Human Influenza A Virus is a BIOHAZARDOUS material containing ACTIVE VIRUS and should be handled in accordance with biosafety guidelines defined in the BMBL, NIH-CDC HHS Publication No. (CDC) 21-1112.
Category: WHO Risk Group 2
Emergency Overview: Biohazardous
Pathogenicity: An acute viral disease of the upper respiratory tract characterized by fever (temperature of 37.8°C or above), headache, myalgia, malaise, sore throat, non-productive cough, sneezing and nasal discharge. Among children, otitis media, nausea and vomiting are commonly reported. Pulmonary complications of influenza include pneumonia (viral and bacterial), croup, asthma and bronchitis. Myocarditis and pericarditis are occasional cardiac complications. Fatality due to influenza is generally low, except in those with chronic lung or heart conditions. Secondary bacterial pneumonia after influenza is a leading cause of mortality worldwide. (Original Pathogen Safety Data Sheet and Risk Assessment located at publichealth.gc.ca)
Host Range: Humans.

Results of PBT and vPvB assessment
PBT: Not applicable
vPvB: Not applicable
SECTION 3: Composition/information on ingredients

3.2 Mixtures
Description: Mixture consisting of 1X Dulbecco’s Phosphate Buffered Saline and Human Influenza Virus

<table>
<thead>
<tr>
<th>Components</th>
<th>Concentration/Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dulbecco’s Phosphate Buffered Saline (DPBS)</td>
<td></td>
</tr>
<tr>
<td>Sodium Phosphate, Dibasic</td>
<td>CAS: 7558-79-4</td>
</tr>
<tr>
<td>Synonym: Disodium hydrogenorthophosphate</td>
<td>EC No: 231-448-7</td>
</tr>
<tr>
<td>Potassium Phosphate, Monobasic</td>
<td>CAS: 7778-77-0</td>
</tr>
<tr>
<td>Synonym: Potassium dihydrogenorthophosphate</td>
<td>EC No: 231-913-4</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>CAS: 7647-14-5</td>
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<tr>
<td></td>
<td>EC No: 231-598-3</td>
</tr>
<tr>
<td>Potassium Chloride</td>
<td>CAS: 7447-40-7</td>
</tr>
<tr>
<td></td>
<td>EC No: 231-211-8</td>
</tr>
<tr>
<td>Human Influenza Virus</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures
- **After inhalation**: Supply fresh air and seek medical advice.
- **After skin contact**: Immediately wash with water and soap and rinse thoroughly. Seek medical advice.
- **After eye contact**: Rinse immediately with plenty of water and seek medical advice.
- **After swallowing**: If swallowed, seek medical advice immediately and show the container/label/SDS.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture
No further relevant information available.

5.3 Advice for firefighters
Protective equipment: No special measures required.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
To minimize contact, wear a laboratory coat, nitrile or latex gloves, and protective glasses.

6.2 Environmental precautions
Disinfect material before disposal.

6.3 Methods and material for containment and cleaning up
Take up with absorbent material. Disinfect area with 3% hydrogen peroxide followed by 70% isopropyl alcohol.

6.4 Reference to other sections
See Section 7 for Safe Handling. See Section 8 for Exposure Controls. See Section 13 for Disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Biosafety Level-2 (BSL-2) facilities, practices and procedures are recommended for diagnostic, research and production activities utilizing contemporary, circulating human influenza strains (e.g., H1/H3/B) and low pathogenicity avian influenza (LPAI) strains (e.g., H1-4, H6, H8-16), and equine and swine influenza viruses. BSL-2 is appropriate for work with these viruses in animal models. Wear appropriate protective equipment (see Section 8). Practice good work hygiene.

7.2 Conditions for safe storage, including any incompatibilities
Storage temperature ≤ -70°C in well-sealed receptacle.

7.3 Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

8.2 Exposure controls
Personal protective equipment
General protective/hygienic measures
The usual precautionary measures are to be adhered to when handling chemicals and biological material.

Ventilation
Work in a biological safety cabinet to reduce the possibility of exposure.

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.

Protection of hands
Protective gloves (i.e. nitrile or equivalent).

Eye protection
Safety glasses or safety goggles, as appropriate.

Body protection
Protective work clothing and laboratory coats.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance
Form: Liquid
Color: Slightly Whitish

Odor
Odorless

Odor Threshold
Does not apply, as substance is odorless.

pH
7.4

Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined

Flash point
Not applicable

Evaporation rate
Not determined

Flammability (solid, gaseous)
Does not apply, substance is a liquid.

Auto/Self-ignition temperature
Not determined

Decomposition temperature
Not determined

Self-igniting
Product is not self-igniting.

Danger of explosion
Product does not present an explosion hazard.

Vapor pressure/density
Not determined

Density
Not determined

Viscosity
Not determined

Solubility in/Miscibility with Water
Soluble

9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No further relevant information available.

10.2 Chemical stability
No further relevant information available.

10.3 Possibility of hazardous reactions
No dangerous reactions known.

10.4 Conditions to avoid
No further relevant information available.

10.5 Incompatible materials
No further relevant information available.

10.6 Hazardous decomposition products
No further relevant information available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification
Unknown

Primary irritant effect
Based on available data, the classification criteria are not met.

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 sensitization
Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
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.
SECTION 12: Ecological information

12.1 Toxicity
   Aquatic toxicity
   No further relevant information available.

12.2 Persistence and degradability
   No further relevant information available.

12.3 Bioaccumulative potential
   No further relevant information available.

12.4 Mobility in soil
   Other Information
   The ecological effects have not been thoroughly investigated, but none have been identified.

General notes
   Avoid release to the environment.

12.5 Results of PBT and vPvB assessment
   PBT
   None of the substances present are considered PBT.
   vPvB
   None of the substances present are considered vPvB.

12.6 Other adverse effects
   No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
   Recommendation
   The user of this product has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state, and federal laws and regulations regarding treatment, storage, and disposal for hazardous and nonhazardous wastes.

   Uncleaned packaging recommendation
   Disposal must be made according to official regulations.

   Recommended cleansing agents
   Disinfection with 1:256 Lysol I.C. or 10% bleach.

SECTION 14: Transport information

14.1 UN number
   DOT, ADR, IMDG, IATA
   UN 3373

14.2 UN proper shipping name
   DOT, ADR, IMDG, IATA
   Biological substance Category B

14.3 Transport hazard class(es)
   DOT, ADR, IMDG, IATA Class
   Class 6, Division 6.2

14.4 Packing group
   DOT, ADR, IMDG, IATA
   Not Regulated

14.5 Environmental hazards
   Marine Pollutant
   Mixture Not Classified Marine Pollutant

14.6 Special precautions for user
   Not Applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
   Not Applicable
SECTION 15: Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

United States (USA)
- SARA Section 355
- SARA Section 313 (Specific toxic chemical listings)
- TSCA (Toxic Substances Control Act)
- Proposition 65 (California)
- Chemicals known to cause Cancer
- Chemicals known to cause reproductive toxicity for females
- Chemicals known to cause developmental toxicity
- Carcinogenic Categories
- EPA (Environmental Protection Agency)
- IARC (International Agency for Research on Cancer)
- NIOSH-Ca

SARA Section 313 (Specific toxic chemical listings)
None of the ingredients are listed.
Sodium Phosphate, Dibasic is listed, but is present below the CERCLA RQ.

TSCA (Toxic Substances Control Act)
All chemicals are listed.

Proposition 65 (California)
None of the ingredients are listed.

Chemicals known to cause Cancer
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females
None of the ingredients are listed.

Chemicals known to cause developmental toxicity
None of the ingredients are listed.

Carcinogenic Categories
None of the ingredients are listed.

EPA (Environmental Protection Agency)
None of the ingredients are listed.

IARC (International Agency for Research on Cancer)
None of the ingredients are listed.

NIOSH-Ca
All chemicals are listed.

WHO/HSE/GCR/2015.2: UN3373

Other regulations, limitations and prohibitive regulations
- Seveso III Directive (2012/18/EU)
- Substances of very high concern (SVHC)

None of the ingredients are listed.

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Disclaimer
The above information is believed to be accurate but does not purport to be all inclusive and shall be used only as a guide. Advanced Biotechnologies, Inc. shall not assume 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 can not guarantee that these are the only hazards that exist.

Abbreviations and acronyms
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DOT: US Department of Transportation
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
LC50/LD50: Lethal concentration, 50 percent/Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PBT/vPvB: Persistent, Bioaccumulative and Toxic/very Persistent and very Bioaccumulative
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals (EC 1907/2006)
SARA: Superfund Amendments and Reauthorization Act
STOT: Specific Target Organ Toxicity
SVHC: Candidate List of Substances of Very High Concern
TWA: Time Weighted Average

Date of Preparation
The effective date in the header of this document is the date of preparation and/or last revision.