



# SAFETY DATA SHEET

New Zealand

## Section 1. Identification

### Product name

**Formulation Buffer (10X); part of 'GenVoy-ILM™ T Cell Kit for mRNA, Ignite, 3 mL'**

### Catalogue Number

1001144



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### Component Number

1001146

### Other means of identification

Not available.

### Product type

Liquid.

#### Identified uses

Analytical chemistry.

Laboratory chemicals

Scientific research and development

### Supplier

Cytiva  
Amersham Place  
Little Chalfont  
Buckinghamshire  
HP7 9NA United Kingdom  
+44 1494 508000

Cytiva New Zealand  
Buddle Findlay, Level 18, Pricewaterhousecooper Tower,  
188 Quay Street,  
Auckland, Auckland, 1010  
New Zealand

### Person who prepared the SDS :

sds\_author@cytiva.com

### Emergency telephone number (with hours of operation)

0800 733 893  
(10am - 7pm)

## Section 2. Hazards identification

### HSNO Classification

CORROSIVE TO METALS - Category 1  
ACUTE TOXICITY (dermal) - Category 4  
ACUTE TOXICITY (inhalation) - Category 3  
SKIN CORROSION - Category 1C

Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 96.9%  
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 83.3%  
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 96.9%

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

### GHS label elements

**Signal word** Danger

**Hazard statements**  
May be corrosive to metals.  
Harmful in contact with skin.  
Causes severe skin burns and eye damage.  
Toxic if inhaled.

### Precautionary statements

**Prevention** Wear protective gloves, protective clothing and eye or face protection. Keep only in original packaging. Use only outdoors or in a well-ventilated area. Avoid breathing vapour. Wash thoroughly after handling.

**Response** Absorb spillage to prevent material damage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.



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<b>Storage</b>	Store locked up. Store in corrosive resistant container with a resistant inner liner.
<b>Disposal</b>	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Symbol</b>	

**Other hazards which do not result in classification** None known.

### Section 3. Composition/information on ingredients

**Substance/mixture** Mixture

**Other means of identification** Not available.

<b>Ingredient name</b>	<b>% (w/w)</b>	<b>Identifiers</b>
Hydrochloric acid ≥ 0.5% aqueous solution	3.1	CAS: 7647-01-0 EC: 231-595-7

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

### Section 4. First aid measures

#### Description of necessary first aid measures

<b>Inhalation</b>	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Ingestion</b>	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Skin contact</b>	Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Eye contact</b>	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

<b>Inhalation</b>	Toxic if inhaled.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	Causes severe burns. Harmful in contact with skin.
<b>Eye contact</b>	Causes serious eye damage.

##### Over-exposure signs/symptoms

<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	Adverse symptoms may include the following: stomach pains
<b>Skin</b>	Adverse symptoms may include the following: pain or irritation redness blistering may occur
<b>Eyes</b>	Adverse symptoms may include the following: pain watering redness



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

<b>Specific treatments</b>	Not available.
<b>Notes to physician</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

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## Section 5. Firefighting measures

**Extinguishing media**

<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Specific hazards arising from the chemical</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
<b>Hazchem code</b>	Not available.
<b>Special precautions for fire-fighters</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>Environmental precautions</b>	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and material for containment and cleaning up**

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

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## Section 7. Handling and storage

**Precautions for safe handling**

<b>Protective measures</b>	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.



<b>Conditions for safe storage, including any incompatibilities</b>	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in corrosive resistant container with a resistant inner liner. Store locked up. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

##### **Ingredient name**

Hydrochloric acid ≥ 0.5% aqueous solution

##### **Exposure limits**

**HSWA 2015 - HSW (GRWM) 2016. Workplace exposure standards (WES) (New Zealand, 11/2023)**

WES-Ceiling: 5 ppm.  
WES-Ceiling: 7.5 mg/m<sup>3</sup>.

#### Biological exposure indices

No exposure indices known.

#### **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.

#### **Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### **Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

#### **Skin protection**

##### **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.

##### **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.

##### **Other skin protection**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### **Respiratory protection**

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

<b>Physical state</b>	Liquid.
<b>Colour</b>	Colourless. Clear.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	3.8 to 4.4
<b>Melting point/freezing point</b>	Not available.
<b>Boiling point or initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	[Product does not sustain combustion.]
<b>Burning time</b>	Not applicable.
<b>Burning rate</b>	Not applicable.
<b>Evaporation rate</b>	Not available.



<b>Flammability</b>	Not available.					
<b>Lower and upper explosive (flammable) limits</b>	Not available.					
<b>Vapour pressure</b>	Not available.					
<b>Vapour Pressure at 20°C</b>						
	<b>Ingredient name</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>
	water	17.5	2.3			
<b>Relative vapour density</b>	Not available.					
<b>Relative density</b>	Not available.					
<b>Solubility in water</b>	Not available.					
<b>Partition coefficient: n-octanol/water</b>	Not applicable.					
<b>Auto-ignition temperature</b>	Not available.					
<b>Decomposition temperature</b>	Not available.					
<b>SADT</b>	Not available.					
<b>Viscosity</b>	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.					
<b>Flow time (ISO 2431)</b>	Not available.					
<b>Particle characteristics</b>						
<b>Median particle size</b>	Not applicable.					

## Section 10. Stability and reactivity

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data.
<b>Incompatible materials</b>	Reactive or incompatible with the following materials: metals
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Toxic if inhaled.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	Causes severe burns. Harmful in contact with skin.
<b>Eye contact</b>	Causes serious eye damage.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	Adverse symptoms may include the following: stomach pains
<b>Skin contact</b>	Adverse symptoms may include the following: pain or irritation redness blistering may occur
<b>Eye contact</b>	Adverse symptoms may include the following: pain watering redness

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>
Hydrochloric acid ≥ 0.5% aqueous solution	<b>Rat - Inhalation - LC50 Gas.</b> 3124 ppm [1 hours] Toxic effects: Olfaction - Other changes Eye - Iritis

**Conclusion/Summary[Product]** Not available.

### Skin corrosion/irritation



Product/ingredient name	Result
Hydrochloric acid ≥ 0.5% aqueous solution	<b>Human - Skin - Mild irritant</b> <u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 4 %

**Conclusion/Summary[Product]** Not available.

**Serious eye damage/eye irritation**

Product/ingredient name	Result
Hydrochloric acid ≥ 0.5% aqueous solution	<b>Rabbit - Eyes - Mild irritant</b> <u>Duration of treatment/exposure:</u> 0.5 minutes <u>Amount/concentration applied:</u> 5 mg

**Conclusion/Summary[Product]** Not available.

**Respiratory corrosion/irritation**

Not available.

**Conclusion/Summary[Product]** Not available.

**Respiratory or skin sensitization**

Not available.

**Skin**

**Conclusion/Summary[Product]** Not available.

**Respiratory**

**Conclusion/Summary[Product]** Not available.

**Potential chronic health effects**

<b>General</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

**Chronic toxicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Carcinogenicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Germ cell mutagenicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Reproductive toxicity**

Not available.



**Conclusion/Summary[Product]** Not available.

#### **Specific target organ toxicity (single exposure)**

Not available.

#### **Specific target organ toxicity (repeated exposure)**

Not available.

#### **Aspiration hazard**

Not available.

#### **Numerical measures of toxicity**

##### **Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Formulation Buffer (10X); part of 'GenVoy-ILM™ T Cell Kit for mRNA, Ignite, 3 mL'	2693.5	1100.0	N/A	2.7	N/A
Hydrochloric acid ≥ 0.5% aqueous solution	500	1100	N/A	0.5	N/A

## Section 12. Ecological information

**Ecotoxicity** No known significant effects or critical hazards.

#### **Aquatic and terrestrial toxicity**

##### **Product/ingredient name**

Hydrochloric acid ≥ 0.5% aqueous solution

##### **Result**

##### **Acute - LC50 - Marine water**

Crustaceans - Green crab - *Carcinus maenas* - Adult  
240 mg/l [48 hours]

Effect: Mortality

##### **Acute - LC50 - Fresh water**

Fish - Western mosquitofish - *Gambusia affinis* - Adult  
282 ppm [96 hours]

Effect: Mortality

**Conclusion/Summary[Product]** Not available.

#### **Persistence/degradability**

Not available.

**Conclusion/Summary[Product]** Not available.

#### **Bioaccumulative potential**

Not available.

#### **Mobility in soil**

**Soil/water partition coefficient** Not available.

**Other adverse effects** No known significant effects or critical hazards.

## Section 13. Disposal considerations

#### **Disposal methods**

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.



## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*
New Zealand Class	Not available.	Not available.	Not available.	-
		No.		
IATA Class	Not available.	Not available.	Not available.	-
		-		
		No.		
IMDG Class	Not available.	Not available.	Not available.	-
		No.		

PG\* : Packing group

Special precautions for user	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to IMO instruments	Not available.

## Section 15. Regulatory information

HSNO Approval Number	HSR002596
HSNO Group Standard	Laboratory Chemicals and Reagent Kits
HSNO Classification	CORROSIVE TO METALS - Category 1 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 3 SKIN CORROSION - Category 1C

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

New Zealand	All components are listed or exempted.
Australia	All components are listed or exempted.
United States	All components are active or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	<b>Japan inventory (CSCL):</b> All components are listed or exempted. <b>Japan inventory (ISHL):</b> Not determined.

## Section 16. Other information

### History

Date of printing	18 November 2025
Date of issue/ Date of revision	18 November 2025
Date of previous issue	5/22/2024
Version	4



**Key to abbreviations**

ADG = Australian Dangerous Goods  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
UN = United Nations

**References**

Not available.

 Indicates information that has changed from previously issued version.

**Notice to reader**

To the best of our knowledge, the information contained 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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