healthincode

MATERIAL SAFETY DATA SHEET

Fragmentation Buffer

1. Company/Undertaking Identification

Supplier:

Health in Code, S.L.

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http://www.healthincode.com

Emergency Response:

National Institute of Toxicology:

91 562 84 69

2. Product information

Description: Buffer used for DNA fragmentation, prior to NGS libraries preparation

References with Fragmentation Buffer reagent: IMG-363, IMG-365, IMG-370, IMG-390, IMG-399, IMG-400, IMG-401, IMG-418, IMG-419.

COMPOSITION/INFORMATION ON INGREDIENTS:

The product is a hazardous substance

Chemical Name	CAS-No.	EC-No.(EINECS-No.)	Concentration%
Caesium chloride	7647-17-8	-	<2.5

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.

HAZARDS IDENTIFICATION:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Health hazards:

Repr. 2- H361

Label elements: Labeling according to the Regulation (EC) No 1272/2008 [CLP]

Warning pictogram

Signal word: Warning

Hazard statement[s]: H361 Suspected of damaging fertility or the unborn child.

Precautionary statement(s):

P201 Obtain special instructions before use.

P308 + P313 If exposed or concerned: Get medical advice or attention.

P501 Dispose of contents and container in accordance with all local, regional, national, and international regulations.

FIRST AID

Eyes contact:	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. Get medical attention if irritation occurs.
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention. 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.

Skin contact:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion:	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention. 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.

Over-exposure signs/symptoms: reduced fetal weight, increase in fetal deaths, skeletal malformations
No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

Special hazards arising from the substance or mixture
Specific hazards: In a fire or if heated, a pressure increase will occur, and the container may burst.

Hazardous thermal decomposition products: Decomposition products may include the following materials: halogenated compounds, metal oxide/oxides.

Advice for firefighters
Special protective actions for fire-fighters: 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.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel: 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in section "Exposure controls/personal protection" about suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Environmental precautions: Avoid dispersal of spilled 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 materials for containment and cleaning up

Methods for cleaning up: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

HANDLING AND STORAGE

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment. Avoid exposure - obtain special

instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation, or wear appropriate respirator. 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.

Advice on general occupational hygiene: 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.

Conditions for safe storage, including any incompatibilities

Safe storage: 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 and food and drink. Store locked up. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

Specific end use(s)

Industrial applications, Professional applications

EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTION

Appropriate engineering controls: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be
always worn 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 and other skin 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
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.

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.

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.

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.

PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid.
Color:	Not available.
Odor:	Not available.
Odor threshold	Not available.
pH:	7.5
Melting point	Not available.
Boiling point	Not available.
Vapor pressure at 20°C (68°F):	Not available.
Flash point:	Not available.
Ignition point:	Not available.
Lower explosion limit:	Not available.
Upper explosion limit:	Not available.
Water solubility:	Easily soluble in the following materials: cold water and hot water.
Explosion limits:	Not available.
Density:	Not available.
Percent volatile:	Not available.
Volatile organic compounds (VOC) content:	Not available.

REACTIVITY

No specific test data related to reactivity available for this product or its ingredients

STABILITY

Stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: May react or be incompatible with oxidizing materials.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

TOXICOLOGICAL INFORMATION

Acute toxicity:

Product/ingredient name	Result	Species	Dose
Caesium chloride	LD50 Oral	Rat	2004 mg/kg

Information on the likely routes of exposure:

Routes of entry anticipated: Oral, Dermal, Inhalation.

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

Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal
malformations.

Delayed and immediate effects and chronic effects from short- and long-term exposure:

Short term exposure:

Potential immediate effects: Not available.

Long term exposure:

Potential immediate effects: Not available.

Potential chronic health effects

General: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates:

Product/ingredient name	Oral (mg/Kg)	Dermal (mg/Kg)	Inhalation (gases)(ppm)	Inhalation (vapors)(mg/L)	Inhalation (dusts and mists)(mg/L)
Fragmentation Buffer	119030.6	N/A	N/A	N/A	N/A
Caesium chloride	2004	N/A	N/A	N/A	N/A

ECOLOGICAL INFORMATION

Toxicity:

Product/ingredient name	Result	Species	Exposure
Caesium chloride	Acute EC50 135000 µg/l Fresh wáter Acute LC50 7400 µg/l Fresh water	Crustaceans: Eudiaptomus padanus ssp. padanus – Adult Daphnia - Daphnia hyalina - Adult	48 hours 48 hours

Mobility in soil: Soil/water partition coefficient (KOC) not available.

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

DISPOSAL CONSIDERATIONS

Waste treatment methods:

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal
of this product, solutions and any by-products should always 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements. The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

TRANSPORT INFORMATION

DOT / TDG / Mexico / IMDG / IATA	Not regulated.
Special precautions for user	Transport within user's premises: 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.

REGULATORY INFORMATION

Safety, health and environmental regulations and legislation specific to the substance or mixture. The safety data sheet complies with the requirements of:

- Commission Regulation (EU) 2022/586 of 8 April 2022 amending Annex XIV to Regulation (EC) 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Directive 94/33/EC on the protection of young people at work. Consider limited employment under the law on the protection of mothers (92/85/EEC) for pregnant or breastfeeding mothers.

Regulation (EC) No. 649/2012 of the European Parliament and of the Council of 4 July 2012

concerning the export and import of dangerous chemicals.

Not applicable

Disclaimer:

IMPORTANT: The information provided in this MSDS is based on our present knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a guarantee (express or implied) for any specific product features and shall not establish a legally valid contractual relationship. This information relates only to the designated material as shipped and may not be valid for such material used in combination with any other materials or in any other procedures, unless specified in our instructions for use. It is the responsibility of the user to ensure that its activities comply with all applicable legislation and requirements.

If you have any questions, please contact: tech.support@healthincode.com

Modifications	
Version: 01	N/A
Version: 02	The reference IMG-365 is added to include of this reagent
Version: 03	The references IMG-370, IMG-390 and IMG-399 are added to include of this reagent
Version: 04	Changes in section 1
Version: 05	The references IMG-400 and IMG-401 are added to include of this reagent
Version: 06	The manufacturer's name has been changed
Version: 07	The reference IMG-418 is added to include of this reagent
Version: 08	The reference IMG-419 is added to include of this reagent
Version: 09	Update of regulatory information