

SAFETY DATA SHEET

Product Identifier: Ionic™ FFPE to Pure RNA Kits
Catalog ID number: 33010 and 33012

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Contact information

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Product identifier FFPE to Pure RNA Kits

Synonyms None identified

Trade names None identified

Chemical family Components (Mixture components only):
Extraction Buffer
Anodic Buffer
Separation Buffer
Neutralization Buffer
Cathodic Buffer
Lysis 1
Lysis 2
Proteinase K
DNase 1
Fluidics Chips
Sample Buffer (FFPE)
Mineral Oil

Relevant identified uses of the substance or mixture and uses advised against For research use only. Not for use of diagnostic procedures.

Note This SDS is written to address potential health and safety issues associated with the handling of the formulated product.

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SECTION 2 - HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System Mixtures - Not classified
[GHS]

The following components are NOT hazardous according to the OSHA Hazard Communication Standard (29 CFR 1910. 1200):
Cathodic Buffer
Extraction Buffer
Anodic Buffer
Separation Buffer
Neutralization Buffer
Lysis 1
Lysis 2
Proteinase K
DNase 1
Fluidics Chips
Sample Buffer (FFPE)
Mineral Oil

AU Hazard Classification (NOHSC)

Cathodic Buffer: None
Extraction Buffer: None
Anodic Buffer: None
Separation Buffer: None
Neutralization Buffer: None
Lysis 1: None
Lysis 2: None
Proteinase K: None
DNase 1: None
Fluidics Chips: None
Sample Buffer (FFPE): None
Mineral Oil: None

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Label elements

CLP/GHS hazard pictogram

Cathodic Buffer: None
Extraction Buffer: None
Anodic Buffer: None
Separation Buffer: None
Neutralization Buffer: None
Lysis 1: None
Lysis 2: None
Proteinase K: None
DNase 1: None
Fluidics Chips: None
Sample Buffer (FFPE): None
Mineral Oil: None

CLP/GHS signal word

Cathodic Buffer: None
Extraction Buffer: None
Anodic Buffer: None
Separation Buffer: None
Neutralization Buffer: None
Lysis 1: None
Lysis 2: None
Proteinase K: None
DNase 1: None
Fluidics Chips: None
Sample Buffer (FFPE): None
Mineral Oil: None

CLP/GHS hazard statements

Cathodic Buffer: None
Extraction Buffer: None
Anodic Buffer: None
Separation Buffer: None
Neutralization Buffer: None
Lysis 1: None
Lysis 2: None
Proteinase K: None
DNase 1: None
Fluidics Chips: None
Sample Buffer (FFPE): None
Mineral Oil: None

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CLP/GHS precautionary statements

Extraction Buffer: None
 Anodic Buffer: None
 Separation Buffer: None
 Neutralization Buffer: None
 Lysis 1: None
 Lysis 2: None
 Proteinase K: None
 DNase 1: None
 Fluidics Chips: None
 Sample Buffer (FFPE): None
 Mineral Oil: None

Other hazards

None

Note

None of the mixtures are classified as hazardous according to Regulation EC No 1272/ 2008 (EU CLP) and Hazard Communication Standard No. 1910.1200 (US OSHA). The pharmacological, toxicological and ecological properties of all mixtures in this kit have not been fully characterized.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

The following pertains to Cathodic Buffer:

<u>Ingredient</u>	<u>Formula</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>Classification</u>
4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid (HEPES)	C ₈ H ₁₈ N ₂ O ₄ S	7365-45-9	230-907-9	7%-9%	None

The following pertains to Neutralization Buffer, Cathodic Buffer, Separation Buffer and Anodic Buffer:

<u>Ingredient</u>	<u>Formula</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>Classification</u>
2-Amino-2-(hydroxymethyl)-1,3-propanediol (Trizma Base)	C ₄ H ₁₁ NO ₃	77-86-1	201-064-4	<2% - 20%	None

Note

The ingredients listed above are considered hazardous and/or are present at reportable values. The remaining components are non-hazardous and/or present at amounts below reportable limits. See Section 16 for full text of GHS classifications.

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SECTION 4 - FIRST AID MEASURES

Description of first aid measures	PERTAINS TO ALL COMPONENTS
Immediate Medical Attention Needed	Consult a physician. Present this safety data sheet to the doctor in attendance.
Eye Contact	If easy to do, remove contact lenses, if worn. Immediately flush eyes with copious quantities of water for at least 15 minutes. If irritation occurs or persists, notify medical personnel and supervisor.
Skin Contact	Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.
Inhalation	Immediately move exposed subject to fresh air. If not breathing, give artificial respiration. If breathing is labored, administer oxygen. Immediately notify medical personnel and supervisor.
Ingestion	Do NOT induce vomiting. Do not give anything to drink unless directed by medical personnel. Never give anything by mouth to an unconscious person. Notify medical personnel and supervisor.
Protection of first aid responders	See Section 8 for Exposure Controls/Personal Protection recommendations.
Most important symptoms and effects, both acute and delayed	See Sections 2 and 11.
Indication of immediate medical attention and special treatment needed, if necessary	No data available.

SECTION 5 - FIREFIGHTING MEASURES

	PERTAINS TO ALL COMPONENTS
Extinguishing media	Use water spray (fog), alcohol resistant foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.
Specific hazards arising from the substance or mixture	All components: No data available.
Flammability/Explosivity	None.
Advice for firefighters	If necessary, wear full protective clothing and a self-contained breathing apparatus with a full face-piece operated in the pressure demand or other positive pressure mode. Decontaminate all equipment after use.

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERTAINS TO ALL COMPONENTS

Personal precautions, protective equipment and emergency procedures	If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated. Do not breathe mist/vapors/spray. Wear respiratory protection.
Environmental precautions	Do not empty into drains. Avoid release to the environment.
Methods and material for containment and cleaning up	If vials are crushed or broken, do not cause material to become air borne. For small spills, soak up material with absorbent, e.g., paper towels. For large spills, cordon off spill area and minimize the spreading of spilled material. Soak up material with absorbent. Collect spilled material, absorbent, and rinse water into suitable containers for proper disposal in accordance with applicable waste disposal regulations (see Section 13). Decontaminate the area.
Reference to other sections	See Sections 8 and 13 for more information.

SECTION 7 - HANDLING AND STORAGE

PERTAINS TO ALL COMPONENTS:

Precautions for safe handling	Avoid contact with skin and eyes. Avoid formation of aerosols. Potential for combustible dust formation should be taken into consideration before additional processing occurs.
Conditions for safe storage including any incompatibilities	Store in tightly closed containers that are appropriately labeled and at the temperatures indicated on the label for each of the components.
Specific end use(s)	No information identified.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Note	Dispose of broken vials/syringes in a sharps container.
Control Parameters/ Occupational Exposure Limit Values	No components contain materials with occupational exposure limits.
Exposure/Engineering controls	If handling bulk product or vials are opened/crushed/broken: Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Use local exhaust and/or enclosure at aerosol/ mist-generating points.
Respiratory protection	Respiratory protection is not required. For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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Skin protection	Wear appropriate gloves, lab coat, or other protective overgarment if skin contact is likely. Base the choice of skin protection on the job activity, potential for skin contact and reagents in use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye/face protection	Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.
Environmental Exposure Controls	Avoid release to the environment and operate within closed systems wherever practicable. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.
Other protective measures	Wash hands in the event of contact with this product/mixture, especially before eating, drinking or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	All Components: Clear, colorless
Color	See appearance
Odor	Lysis 1: Unpleasant All Other Components: Odorless
Odor threshold	All components: No information identified.
pH	Extraction Buffer: 8.0 Anodic Buffer: 8.8 Separation Buffer: 8.0 Neutralization Buffer: 8.6 Cathodic Buffer: 8.1 Lysis 1: 8.7 Lysis 2: Not Identified Proteinase K: Not Identified DNase 1: Not Identified Sample Buffer (FFPE): Not Identified Mineral Oil: Not Identified
Melting point/freezing point	All components: No information identified.
Initial boiling point and boiling range	All components: No information identified.
Flash point	All components: No information identified.
Evaporation rate	All components: No information identified.

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Flammability (solid, gas)	All components: No information identified.
Upper/lower flammability or explosive limits	All components: No information identified.
Vapor pressure	All components: No information identified.
Vapor density	All components: No information identified.
Relative density	All components: No information identified.
Water solubility	All components: No information identified.
Solvent solubility	All components: No information identified.
Partition coefficient (n-octanol/water)	All components: No information identified.
Auto-ignition temperature	All components: No information identified.
Decomposition temperature	All components: No information identified.
Viscosity	All components: No information identified.
Explosive properties	All Components: Not classified as explosive.
Oxidizing properties	All components: Not classified as oxidizing.

Other information

Molecular weight	All components: Not applicable (Mixtures)
Molecular formula	All components: Not applicable (Mixtures)

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	All components: No information identified.
Chemical stability	All components: Stable under recommended storage conditions.
Possibility of hazardous reactions	All components: No information identified.
Conditions to avoid	All components: No information identified.
Incompatible materials	All components: No information identified.
Hazardous decomposition products	All components: No information identified.

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SECTION 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects

Route of entry	All components: No information identified.
Acute toxicity	All components: No information identified.
Irritation/Corrosion	All components: No information identified.
Sensitization	All components: No information identified.
STOT-single exposure	All components: No information identified.
STOT-repeated exposure/Repeat-dose toxicity	All components: No information identified.
Reproductive toxicity	All components: No information identified.
Developmental toxicity	All components: No information identified.
Genotoxicity	All components: No information identified.
Carcinogenicity	<p>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.</p> <p>ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.</p>
Aspiration hazard	All components: No information identified.
Human health data	<p>All components: No information identified.</p> <p>See Section 2 - "Other hazards"</p> <p>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</p>

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SECTION 12 - ECOLOGICAL INFORMATION

Toxicity	All components: No information identified.
Additional toxicity information	All components: No information identified.
Persistence and Degradability	All components: No information identified.
Bioaccumulative potential	All components: No information identified.
Mobility in soil	All components: No information identified.
Results of PBT and vPvB assessment	All components: Not available as chemical safety assessment not required/not conducted.
Other adverse effects	All components: No information identified.
Note	The environmental characteristics of this product/mixtures have not been fully investigated. The above data are for the active ingredient and/or any other ingredient(s) where applicable. Releases to the environment should be avoided.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods	All components: Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. Do not send down the drain or flush down the toilet. Offer surplus and non-recyclable solutions to a licensed disposal company.
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SECTION 14 - TRANSPORT INFORMATION

Transport	DOT: All components: Not dangerous goods. IMDG: All components: Not dangerous goods. IATA: All components: Not dangerous goods.
Environmental hazards	All components: Based on the available data, this mixture is not regulated as an environmental hazard or a marine pollutant.
Special precautions for users	All components: No special precautions needed. Avoid release to the environment.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	All components: Not applicable.
Hazardchem Code/HIN	Mixtures: None assigned.

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SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture This SDS complies with the requirements under US, EU and GHS (EU CLP - Regulation EC No 1272/2008) guidelines. Consult your local/regional authorities for more information.

Chemical safety assessment Not conducted.

WHMIS classification Not classified.

TSCA status Not listed

SARA section 313 All Components: Not listed

These materials do not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California proposition 65 All components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components All components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Cathodic Buffer: (Contains HEPES)	CAS-No 7365-45-9
Neutralization Buffer, Cathodic Buffer, Separation Buffer, Anodic Buffer (Contain Trizma Base)	CAS-No 77-86-1
All Other Components	No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know Components

Cathodic Buffer: Component HEPES	CAS-No 7365-45-9
Neutralization Buffer, Cathodic Buffer, Separation Buffer, Anodic Buffer (Component Trizma Base)	CAS-No 77-86-1
All Other Components	No components are subject to the New Jersey Right to Know Act.

Component Analysis – State Not Listed.

Component Analysis – Chemical Inventory Not Listed.

Additional information No other information identified.

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SECTION 16 - OTHER INFORMATION

NFPA Ratings	All Components	Health: 0 Fire: 0	Reactivity: 0
HMIS Ratings	All Components	Health: 0 Chronic: 0	Flammability: 0 Physical: 0

Full text of H phrases and GHS classifications Full text of H-Statements referred to under sections 2 and 3.

Sources of data Information from published literature and internal company data.

Abbreviations ACGIH - American Conference of Governmental Industrial Hygienists; ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail; AIHA - American Industrial Hygiene Association; CA - California; CAS# - Chemical Abstract Services Number; CLP - Classification, Labelling, and Packaging of Substances and Mixtures; DNEL - Derived No Effect Level; DOT - Department of Transportation; EINECS - European Inventory of New and Existing Chemical Substances; ELINCS - European List of Notified Chemical Substances; EU - European Union; GHS - Globally Harmonized System of Classification and Labeling of Chemicals; HI - Hawaii; IARC - International Agency for Research on Cancer; IDLH - Immediately Dangerous to Life or Health; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; LOEL - Lowest Observed Effect Level; LOAEL - Lowest Observed Adverse Effect Level; MA - Massachusetts; MN - Minnesota; NJ - New Jersey; NIOSH - The National Institute for Occupational Safety and Health; NOEL - No Observed Effect Level; NOAEL - No Observed Adverse Effect Level; NTP - National Toxicology Program; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration; PA - Pennsylvania; PNEC - Predicted No Effect Concentration; RI - Rhode Island; SARA - Superfund Amendments and Reauthorization Act; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; VT - Vermont; WA - Washington; WHMIS - Workplace Hazardous Materials Information System

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