

SAFETY DATA SHEET

HiTE™ (High-efficiency Transduction Enhancer)

According to Regulation (EC) No 1907/2006 (REACH), GHS Rev. 9

SDS Revision Date February 2026	Version 6.0	Classification Not Hazardous
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SECTION 1: IDENTIFICATION

1.1 Product Identifier

Product Name	HiTE™ (High-efficiency Transduction Enhancer)
Product Code(s)	HiTE-RUO-10, HiTE-RUO-50
Chemical Name	Transient Fusion-Promoting Peptide (TFP)
Product Use	Transduction enhancement reagent for lentiviral gene transfer
Restrictions on Use	For Research Use Only. Not for diagnostic or therapeutic use.

1.2 Manufacturer/Supplier Information

Company Name	PyrOjas Corporation
Address	45-18 Ct Square W, Floor 6, Long Island City, NY 11101, USA
Email	support@hitebio.com
Website	www.hitebio.com

1.3 Emergency Contact

Poison Control (US)	1-800-222-1222
Company Contact	support@hitebio.com

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 GHS Classification

NOT CLASSIFIED AS HAZARDOUS

This product is not classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals.

Classification	Not a hazardous substance or mixture
Signal Word	None required
Hazard Statements	None
Precautionary Statements	None required by GHS

2.2 Other Hazards

This product is a synthetic peptide designed for research use. While not classified as hazardous, standard laboratory safety practices should be followed when handling biological research reagents. This product does not contain substances meeting the criteria for PBT (Persistent, Bioaccumulative, Toxic) or vPvB (very Persistent, very Bioaccumulative) classification.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance Information

Substance Type	Synthetic peptide
Chemical Description	Modular transient fusion-promoting peptide comprising 15–60 amino acid residues
Molecular Weight	~2,000–6,000 Da

3.2 Composition

Component	CAS No.	Concentration
HiTE™ Peptide (active)	Proprietary	400 µM (solution)
Sterile Water (diluent)	7732-18-5	Balance

SECTION 4: FIRST-AID MEASURES

4.1 Description of First Aid Measures

Inhalation: Move to fresh air. If symptoms persist, seek medical attention.

Skin Contact: Wash affected area thoroughly with soap and water. Remove contaminated clothing. If irritation develops or persists, seek medical attention.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If irritation persists, seek medical attention.

Ingestion: Rinse mouth with water. Do not induce vomiting. If symptoms develop, seek medical attention.

4.2 Most Important Symptoms and Effects

No significant health effects expected under normal laboratory use conditions. Potential for mild irritation with prolonged or repeated exposure.

4.3 Indication of Immediate Medical Attention

Treat symptomatically. No specific antidote. Inform medical personnel that product is a synthetic peptide research reagent.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide (CO₂).

Unsuitable: None known.

5.2 Special Hazards

Product is an aqueous solution and does not present a significant fire hazard. Thermal decomposition may produce carbon oxides and nitrogen oxides.

5.3 Advice for Firefighters

Wear self-contained breathing apparatus and full protective clothing. Use water spray to cool fire-exposed containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Wear appropriate protective equipment (lab coat, gloves, safety glasses). Avoid contact with skin and eyes. Ensure adequate ventilation.

6.2 Environmental Precautions

Do not allow to enter drains, sewers, or waterways. This product is biodegradable and is not expected to persist in the environment.

6.3 Methods for Containment and Cleanup

Absorb spill with inert material (paper towels, vermiculite). Collect in appropriate waste container. Clean area with water. Dispose of in accordance with local regulations.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Handle in accordance with good laboratory practices (GLP). Avoid contact with skin and eyes. Use in a well-ventilated area or biosafety cabinet. Do not eat, drink, or smoke when using this product. Wash hands thoroughly after handling.

7.2 Conditions for Safe Storage

Long-term Storage	-80°C for up to 12 months
Stock Concentration	400 µM in sterile water
Freeze/Thaw Cycles	Maximum 3 cycles permitted
Aliquoting	Recommended after first thaw (10–20 µL aliquots)
Light Sensitivity	Protect from prolonged light exposure
Container	Store in original container. Keep tightly closed.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Limits

No occupational exposure limits (OELs) have been established for this product. The product is used in small quantities (microliters) in laboratory settings.

8.2 Engineering Controls

Use in a certified biosafety cabinet (Class II Type A2) when handling alongside lentiviral vectors. General laboratory ventilation is adequate for handling HiTE™ alone.

8.3 Personal Protective Equipment (PPE)

Eye Protection	Safety glasses or goggles
Skin Protection	Nitrile gloves; laboratory coat
Respiratory Protection	Not required under normal use conditions
Other	Closed-toe shoes; tie back long hair

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear to slightly opalescent liquid
Color	Colorless to pale yellow
Odor	Odorless
pH	6.5–7.5 (at 400 µM in water)
Boiling Point	~100°C (aqueous solution)
Melting/Freezing Point	<0°C
Solubility	Fully soluble in water and aqueous buffers
Molecular Weight	~2,000–6,000 Da
Flash Point	Not applicable (aqueous solution)
Viscosity	Similar to water
Density	~1.0 g/mL

SECTION 10: STABILITY AND REACTIVITY

Reactivity	No known reactivity hazards
Chemical Stability	Stable under recommended storage conditions (–80°C)
Conditions to Avoid	Repeated freeze/thaw cycles (>3), prolonged room temperature exposure, extreme pH (<3 or >10)
Incompatible Materials	Strong oxidizing agents, strong acids, strong bases
Hazardous Decomposition	Thermal decomposition may produce carbon oxides (CO _x) and nitrogen oxides (NO _x)
Hazardous Polymerization	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity

No acute toxicity data available for this specific product. Based on the composition (synthetic peptide in aqueous solution at micromolar concentrations), significant acute toxicity is not expected.

11.2 Routes of Exposure

Inhalation	Low risk. Product is a liquid used in small volumes.
Skin Contact	May cause mild irritation with prolonged exposure.
Eye Contact	May cause mild irritation.
Ingestion	No significant toxicity expected at product concentrations.

11.3 Chronic Effects

No data available on chronic toxicity, carcinogenicity, mutagenicity, or reproductive toxicity. As a synthetic peptide, the product is expected to be biodegradable and non-bioaccumulative.

11.4 Cell-Based Safety Data

IN VITRO SAFETY PROFILE

HiTE™ has been extensively tested in cell culture systems. At recommended working concentrations (20–160 µM), HiTE™ maintains >90% cell viability across multiple cell types including primary human T cells, NK cells, and iPSCs. For detailed safety and performance data, refer to the HiTE™ White Paper (www.hitebio.com).

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	No ecotoxicity data available. Not expected to be harmful to aquatic organisms at product concentrations.
Persistence / Degradability	Expected to be readily biodegradable (peptide/protein).
Bioaccumulative Potential	Not expected to bioaccumulate (peptide nature, water soluble).
Mobility in Soil	High water solubility suggests high mobility; rapid degradation expected.
PBT/vPvB Assessment	Does not meet PBT or vPvB criteria.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Dispose of contents and container in accordance with local, regional, and national regulations. When used with lentiviral vectors, treat all materials as biohazardous waste and decontaminate with 10% bleach solution (minimum 30 minutes contact time) before disposal.

13.2 Contaminated Packaging

Rinse empty containers with water. Dispose of as laboratory waste in accordance with institutional guidelines.

SECTION 14: TRANSPORT INFORMATION

SHIPPING REQUIREMENTS

Product is shipped on dry ice (UN 1845). The peptide solution itself is not classified as dangerous goods for transport.

UN Number	Not regulated (peptide solution). Dry ice: UN 1845
DOT (US)	Not regulated as hazardous material
IATA (Air)	Not restricted. Dry ice classified as Class 9 Miscellaneous
IMDG (Sea)	Not regulated
Proper Shipping Name	Biological substance, Category B (when shipped with dry ice)
Packing Group	Not applicable
Environmental Hazards	Not classified as marine pollutant

SECTION 15: REGULATORY INFORMATION

15.1 Product Classification

Intended Use	Research Use Only (RUO)
FDA Status	Not FDA approved. Not for diagnostic or therapeutic use.
TSCA (US)	Exempt (research quantities)
REACH (EU)	Exempt (research and development substance, <1 tonne/year)
OSHA	Not classified as hazardous under 29 CFR 1910.1200

SECTION 16: OTHER INFORMATION

Date of Preparation	February 2026
Revision Number	6.0
Supersedes	Version 5.0
Prepared By	PyrOjas Corporation, Regulatory Affairs

Abbreviations

GHS: Globally Harmonized System of Classification and Labelling of Chemicals. PBT: Persistent, Bioaccumulative, Toxic. vPvB: very Persistent, very Bioaccumulative. OSHA: Occupational Safety and Health Administration. TSCA: Toxic Substances Control Act. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals. DOT: Department of Transportation. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods.

DISCLAIMER

The information provided in this Safety Data Sheet is correct to the best of our knowledge as of the revision date. It is provided in good faith but without warranty, expressed or implied. It is the user's responsibility to ensure safe conditions for handling, storage, and disposal of this product. This SDS is intended to describe the product in terms of its safety requirements and should not be construed as a guarantee of performance or quality.

PyrOjas Corporation

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