



Material Data

Section 1 - Product and Manufacturer Information

Product Name: **TruRNA Extraction Kit**
Supplier: **Atom Sciences, Inc.**
114 Ridgeway Center
Oak Ridge, TN 37830
Contact Telephone: **865-483-1113**

Section 2 – Hazardous Ingredients/Identity Information

Tris-HCl, pH 7.5 (CAS 1185-53-1)
EDTA (CAS 139-33-3)
Guanidine thiocyanate (CAS 593-84-0)
Citric acid (CAS 77-92-9)

Chemical Synonyms: Tris-HCl is also known as *2-amino-2-hydroxymethyl-1,3-propanediol hydrochloride*; EDTA is also known as *ethylenediamine tetraacetic acid*

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Section 3 - Physical and Chemical Properties

Boiling Point (Degree C): >100; Soluble in Water; Appearance and Odor: Clear liquid.

Section 4 – Fire and Explosion Hazard Data

Extinguishing Media: Carbon dioxide, dry chemical powder, water spray or standard foam.
Special Fire Fighting Procedure: Wear full protective clothing and self-contained positive pressure breathing apparatus certified by NIOSH when fighting chemically related fires. Move container from fire areas. Do not scatter spilled material with high-pressure H₂O streams. Dike fire control H₂O for later disposal.
Unusual Fire and Explosion Hazards: Slight fire hazard when exposed to heat or flame.

Section 5 - Reactivity Data

Stability: Stable; May burn but does not ignite.
Conditions to Avoid: Open containers and poor ventilation. Excess heat, sparks or open flame.
Incompatibility (Materials to Avoid): Several chemicals are incompatible with strong oxidizing agents and strong acids.
Hazardous Decomposition or Byproducts: Incomplete combustion may generate carbon monoxide. Fire conditions may produce hydrogen chloride gas and oxides of nitrogen, magnesium, sodium, and potassium.
Hazardous Polymerization: Not relevant

Section 6 – Health Hazard Data

Harmful if swallowed. Irritating to the skin, eyes and respiratory system. Inhalation of dusts or mists may cause mucous membrane irritation with sore throat and coughing. May cause skin irritation with redness and pain.

Primary Route(s) of Entry: Eyes, respiratory tract; skin, digestive system.

Health Hazard Acute Effects: Harmful if swallowed.

Carcinogenicity: NTP? No; IARC Monographs? No; OSHA Regulated? No; Others? No

Medical Conditions Generally Aggravated by Exposure: Preclude from exposure those individuals with skin and eye disorders. Persons with renal or heart disease; history of seizures or intercranial lesions; potassium deficiency; or insulin dependent diabetes are at increased risk of exposure.

Signs and Symptoms of Overexposure: Can be extremely irritating to gastrointestinal system. If enough material is swallowed, it may result in systemic toxicity. Material may chelate lead, magnesium, zinc, and trace metals if present in the intestine possibly increasing total body stores of these metals.

First-Aid Measures

Inhalation: Irritating to the respiratory system. If inhaled, remove the victim to fresh air. If breathing is difficult, give oxygen. If breathing has stopped begin resuscitation measures. Contact physician.

Eye Contact: Irritating to the eyes. Contamination of the eyes should be treated by immediate and prolonged irrigation with copious

amounts of water by separating the eyelids with fingers. Contact Physician.

Skin Contact: Irritating to the skin. In case of contact, immediately wash skin with soap and copious amounts of water. Remove and wash contaminated clothing promptly.

Ingestion: Harmful if swallowed. If ingested, wash out mouth with water and induce vomiting. Do not induce vomiting nor administer liquids to an unconscious person. Get medical attention immediately.

Section 6 – Precautions for Safe Handling and Use

Accidental Release Measures: Use sand, vermiculite or other suitable absorbent to absorb the spill. Due to the small quantity involved, a leaking container may be placed in a plastic bag containing absorbent and disposed of as a residual waste according to federal, state and local regulations. Used absorbent should be disposed of in a similar manner. Personal protective equipment should be worn during remediation of accidental releases according to the nature and quantity of the material involved. See Section 7 for a description of recommended personal protective equipment.

Handling and Storage

Do not breathe vapor and avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Keep away from oxidizing agents and strong acids. Proper storage must be determined based on other materials stored and their hazards and potential chemical incompatibility. Use only in a chemical fume hood. Keep in a tightly closed container. Store in a cool, dry ventilated area.

Disposal Considerations: Dispose of as a residual waste. Do not pour down drains. Comply fully with all Federal, State, and local regulations.

Section 7 – Control Measures

Exposure Controls/Personal Protection

Adequate ventilation is required to protect personnel from exposure to chemical vapors exceeding permissible exposure levels and to minimize fire hazards. *Respiratory:* Use NIOSH approved respirator equipment or organic mask filter. *Eyes:* Safety glasses are considered minimum protection. Chemical safety goggles or face shield may be necessary depending on quantity of material and conditions of use. Emergency eye wash fountains should be available in the vicinity of any possible exposure.

Skin: Chemical-resistant protective gloves and clothing are recommended. The choice of protective gloves or clothing must be based on chemical resistance and other user requirements. Individuals who are acutely and specifically sensitive to this chemical may require additional protective clothing.

Section 8 – Other Information

Transport Information: DOT Regulations: Not Regulated for Transportation

Regulatory Information: Exposure Limits: None have been developed for the ingredients.

Other Information

Unless otherwise noted, the above information pertains only for the ingredients listed and similar types of components in the sample. When no toxicity data is provided, it is prudent to handle this chemical as hazardous. Furthermore, since individual chemical hypersensitivity cannot be predicted, every chemical should be handled with due respect.

Prepared by: Atom Sciences, Inc.

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