

1. IDENTIFICATION OF SUBSTANCE/MIXTURE AND COMPANY

1.1 Product name: Pi-Clear Nucleic Acid Purification Kit – DNA/RNA Viral.

1.2 Product use: For Research Use Only. Not for use in diagnostic procedures.

1.3 Company name: Pi-Biotech Genética Avançada Ltda.

1.4 Company address: Av. Presidente Itamar Franco, 4001, sala 518 W, Cascatinha, Juiz de Fora (MG), CEP 36033-318.

1.5 E-mail: faleconosco@pi-biotech.com

2. COMPOSITION AND INFORMATION OF INGREDIENTS

2.1 Chemistry:

- **Proteinase K (PK):** proteinase K enzyme in solution.
- **Carrier (CR):** freeze-dried polyadenylic acid.
- **Spin column (PB1):** Polypropylene tube with silica membrane, and polypropylene collection tube.
- **Lysis Buffer (TL):** Buffer solution, guanidine salt and surfactant.
- **Wash Buffer 1 (TP1):** Buffer solution and guanidine salt.
- **Wash Buffer 2 (TP2):** Buffer solution and ethanol.
- **Recovery tube (PB2):** Polypropylene tube.
- **Nuclease-free water (PB3):** DNase and RNase free purified water.

2.2 Components or impurities contributing to the hazard: hydrochloric acid, sodium hydroxide and guanidine salt diluted in buffer solutions.

2.3 Hazard Classification and Labeling: According to the UN Hazardous Goods List, ethanol component is flammable liquid (class 3) and the components hydrochloric acid and sodium hydroxide in solution are corrosive substances (class 8).

3. HAZARDS IDENTIFICATION

3.1 Most important hazards: Stable product when used following Good Laboratory Practices. TL and TP1 can be toxic due to guanidine salt. .

3.2 Human health effects: Ingestion or eyes and skin contact can cause irritation and can be harmful. OBS: Contact effects may be not immediate.

3.3 Environmental effects: There are not related hazards.

3.4 Classification: Mixture. Ethanol is a flammable liquid (class 3). Hydrochloric acid and sodium hydroxide are corrosive substances (class 8).

3.5 Labeling elements: Mixture is not hazardous at levels that require identification.

4. FIRST AID MEASURES

4.1 General first aid: If exposed, get medical attention taking the "Safety data sheet".

4.2 Inhalation: Remove to fresh air. If breathing hard, get emergency medical assistance.

4.3 Skin contact: Wash off immediately with plenty of water for at least 20 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Immediate medical attention is required.

4.4 Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 20 minutes. Immediate medical attention is required.

4.5 Ingestion: Remove to fresh air. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical attention if symptoms occur.

4.6 Most important symptoms and effects: : in conditions use, product doesn't present significant acute hazard. If exposed by inhalation, it may cause respiratory tract irritation. Skin contact may cause irritation. Eye contact may cause eye irritation. If ingested, it may cause digestive tract irritation.

5. FIREFIGHTING MEASURES

5.1 Suitable extinguishing media: Water spray, carbon dioxide (CO₂) or dry chemical. In case of large fires, request the emergency service.

5.2 : Advice for fire fighters: Wear self-contained breathing apparatus and protective suit. .

6. ACCIDENTAL RELEASE MEASURES

6.1 General measures: Isolate the area immediately.

6.2 Personal precautions: Use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

6.3 Methods and material for containment and cleaning up: Soak up with inert absorbent material. Residue must be placed in a closed container and disposed of in accordance with local, state and national regulations.

6.4 Environmental precautions: avoid discharge into drains and waterways.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Always follow Good Laboratory Practices. Wear recommended Personal Protective Equipment. Do not get in eyes, on skin, or on clothing. Do not ingest. After handling the product, wash your hands with plenty of water and neutral soap.

7.2 Conditions for safe storage, including any incompatibilities: Keep in original containers in a dry, cool and well-ventilated place, away from incompatible substances. Do not store close to acids. Store at room temperature (15-25 °C). PK and CR (after resuspend in PB3) must be store at -20 °C.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters: There are no substances with occupational exposure limit values.

8.2 Exposure controls: Provide adequate local and general exhaust ventilation, especially in confined areas; provide safety shower and eyewash.

8.3 Personal Protective Equipment: wear respirators, suitable gloves (compatible chemical-resistant gloves), tight sealing safety goggles and wear laboratory coat for body protection.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Physical state: PK, TL, TP1, TP2 e PB3 are liquids. CR is solid and must be resuspend in Nuclease-free Water (PB3).

9.2 Color: PK, TL, TP1, TP2 e PB3 are incolor. CR is a white solid and becomes incolor after resuspend in PB3. PB1 is colorless polypropylene tube with white silica membrane, together with a colorless polypropylene collection tube. PB2 is colorless polypropylene tube. .

9.3 Odor: data not available.

9.4 pH: data not available.

9.5 Specific temperatures or temperature ranges that physical state changes: data not available.

9.6 Autoignition temperature: not applicable.

9.7 Explosion limit: not applicable.

9.8 Relative density: data not available.

9.9 Viscosity: data not available.

9.10 Solubility: data not available.

9.11 Oxidizing properties: not applicable.

10. STABILITY AND REACTIVITY

10.1 Reactivity: Unknown.

10.2 Chemical stability: stable under normal conditions and room temperature (15-25 °C).

10.3 Conditions to avoid: excessive exposure to sunlight and heat.

10.4 Incompatible materials: keep away from strong oxidizers, strong bases, strong acids and alkali metals.

11. TOXICOLOGICAL INFORMATION

11.1 General toxicological information: not available about each reagent. The known information is related to the components.

11.2 Local effects: Ethanol is one of the components of TP2 and it can irritate the skin and mucous membranes with prolonged contact. It can also cause organ toxicity in case of prolonged exposure. Hydrochloric acid and sodium hydroxide, which are present in solution in the reagents, can burn and irritate skin and mucous membranes, because they are corrosive substances. The guanidine salt is present in TL and TP1. Its pure state can cause serious eye damage and skin irritation. There is no information on local effects of the same diluted in buffer solutions of the reagents described.

12. ECOLOGICAL INFORMATION

There is no information about environmental effects, behavior and impact of the reagents on the environment. If it is handled correctly, it is not expected to obtain any ecological problems. For correct disposal, observe section 13 ("Disposal considerations").

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. They must not be removed from their original packaging or mixed with other waste materials.

13.2 Packing: PK, TL, TP1, TP2 e PB3 are packaged in natural high-density polyethylene bottles. CR is packaged in an amber glass bottle to prevent exposure to light. This material and its container must be disposed of according to approved disposal technique.

14. TRANSPORT INFORMATION

14.1 Special precautions: Not dangerous product according to transport regulations. It must be transported at room temperature (15-25 °C).

15. REGULATORY INFORMATION

15.1 Brazilian Federal Regulations: NBR 14725-4/2014 ABNT (Associação Brasileira de Normas Técnicas). Manufacturing according to Good Manufacturing Practices (RDC N° 497/2021). Waste management according RDC n° 222/2018.

16. OTHER INFORMATION

The above information was acquired by search and/or investigation. It shall not be taken as being all inclusive and is to be used only as a guide. This “safety data sheet” is based on the present state of knowledge and safety precautions applicable. It does not represent any guarantee of the properties of the product. Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.