Document Code	Review	Reason	Issue Date
ITAK-FISPQ-Ni-200/299	03	CAS Number classification	December/05/2023

1- PRODUCT AND MANUFACTURER IDENTIFICATION

Product Name: Certified Reference Material of Nickel Ore

Identification Codes: Applicable to products whose codes vary from ITAK-200 to ITAK-299

CAS Number: 1313-99-1

Product Uses: This Certified Reference Material is indicated for calibration of measurement equipment, validation of analytical methods, quality control (QA/QC) in general, and assignment of values to similar materials.

Manufacturer: Instituto de Tecnologia August Kekulé Ltda

Address: Sebastião Simão de Almeida street, 609 – Bairro Sion

João Monlevade – MG - Brazil

Phone Number: +55 31 3851-3166

E-mail: tecnologia@itak.com.br

2- RISK IDENTIFICATION

Powdered Nickel Ore poses risks to the respiratory tract by inhalation. Contact with eyes or skin may cause injuries by friction (mechanical action). No chemical hazards have been identified under the normal conditions of the intended use. No environmental risk has been identified in the available information.

3- COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

Substance: Nickel Ore

Physical Nature: Pulverized ore (powder)

Chemical Nature: Ore containing Iron and Silicates as main components

Chemical Composition: Fe_2O_3, SiO_2, MgO and Al_2O_3 as majority components, containing also Ni, MnO, Cr_2O_3, TiO_2, Cu e Co in various proportions.

4- FIRST AID PROCEDURES

Inhalation: Remove the victim to fresh air and seek immediate medical advice leading the information about the nature of the product.

Ingestion: If it occurs, seek immediate medical attention leading the information about the nature of the product.

Contact (skin, eyes): Wash with plenty of water. In case of irritation, seek medical attention.

5- FIRE FIGHTING ACTIONS

Certified Reference Materials of Nickel Ore are not flammable or combustible products.

6- CONTROL ACTIONS IN CASE OF SPILL OR LEAK

Due to they are used on a small scale in their practical application, Certified Reference Materials of Nickel Ore when accidentally spilled do not cause environmental impact or damage to health. If it occurs, provide immediate removal of them, discard the residue naturally and clean the spill area using vacuum cleaner or even a damp cloth.

7- HANDLING AND STORAGE

All direct handling of the product should be done using the appropriate Personal Protective Equipment which is described in section 8 of this document.

Storage of the product must comply with the following conditions:

- Keep in a dry place in original unopened packaging.

- Avoid places with exposure to heat and humid environments.

- Keep the product in the original bottle. In case of breakage, it can be discarded in a plastic bottle with a lid.

8- EXPOSURE CONTROL AND INDIVIDUAL PROTECTION

When handling, use the appropriate Personal Protective Equipment:

- Dust mask: protection to the respiratory tract.

- Safety goggles or face shield: eye and face protection (specific operations).

- Gloves: protection of hands and skin.

- Apron, overcoat, or similar: body protection

9- PHYSICAL AND CHEMICAL PROPERTIES

- Physical state: Solid powder.

- Odor: Odorless.

- Radioactivity: Not present.

- Flammability: No flammable.

- Solubility: Insoluble in water.

10- STABILITY AND REACTIVITY

- Stable product under normal conditions.

- It may be reactive in the presence of strong acids or alkalis resulting in soluble and insoluble inorganic compounds.

11- TOXICOLOGICAL INFORMATION

No toxic product. It may cause eye irritation through contact and friction and irritation of mucous membranes through inhalation or aspiration.

12- ECOLOGICAL INFORMATION

The product does not cause any impact if discarded in the environment because it is mineral. It was taken from the environment having only undergone physical transformations and homogenization process without adding to it any type of contaminant or product of any nature.

13- TREATMENT AND DISPOSAL CONSIDERATIONS

The product does not require any type of pretreatment before its disposal in the environment. This disposal, when necessary, is made in minimum quantities because the product is all consumed in its normal use.

14- TRANSPORT INFORMATION

Not classified as dangerous for transportation. Not subject to transport regulations.

15- REGULATORY INFORMATION

Not applicable.

16- ABBREVIATIONS

. SDS: Safety Data Sheet for Chemical Products

. CRM: Certified Reference Material

. QA/QC: Quality Assurance/Quality Control

. CAS: Chemical Abstract Service

17- REFERENCES

- ISO GUIDE 31 – Reference Materials – Contents of certificates, labels and accompanying documentation.

- ISO GUIDE 32 – Calibration in analytical chemistry and use of certified reference materials.

- ABNT NBR 14725 – Chemical Product Safety Data Sheet – MSDS – Rio de Janeiro, 2001.

- Ministry of Labor and Employment – Information on Regulatory Standards for Occupational Safety and Health (NR 15 – annex 12).

- Occupational Safety & Health Administration (OSHA).

- Chemical Abstract Service from American Chemical Society Website.