

Document Code	Review	Reason	Issue Date
ITAK-SDS-Nb-2000/2099	05	Insertion of content range and considerations regarding labeling and transportation	June/18/2025

1- PRODUCT AND MANUFACTURER IDENTIFICATION

Product Name: Certified Reference Material of Niobium Ore.

Identification Codes: Applicable to products whose codes can vary between ITAK-2000 and ITAK-2099

Label: The product identification is clearly and unambiguously stated on its label, certificate, invoice, and any document to which it refers.

CAS Number: 1313-96-8

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

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Phone Number: 55 31 3851-3166

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2- RISK IDENTIFICATION

The final product, CRM, consists physically of pulverized Niobium Ore which, due to its particle size, presents only minor risks to the respiratory tract through dust inhalation. Certified Reference Material is not classified as a physical hazard or health hazard or hazard not otherwise classified.

Contact with eyes or skin may cause abrasions due to the mechanical action of the powder.

No chemical risk has been identified under the intended normal conditions of use.

No environmental risk has been identified based on the available information.

Signal Word: WARNING

3- COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

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Substance:	Niobium Ore
Physical Nature:	Pulverized material (powder)
Chemical Nature:	Material containing Niobium (Nb), Iron (Fe), Silica (SiO ₂) and Calcium (Ca) as main elements
Chemical Composition:	The product contains Nb, Fe and Silica in various proportions, and can also contain P, Mg, Al, Ti, Ca e Ba oxides as additional elements. It can also occur associated with Rare Earth Elements (REE).
Main component content range:	Nb ₂ O ₅ : 0.3% to 5.0%

4- FIRST AID PROCEDURES

Inhalation:	Remove the victim to fresh air and seek immediately 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 Niobium Ore are not flammable or combustible products

6- CONTROL ACTIONS IN CASE OF SPILL OR LEAK

Due they are used on a small scale in their practical application, Certified Reference Materials of Niobium Ore when accidentally spilled do not cause environmental impact or damage to health. If it occurs, provide the immediate removal of them, dispose 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 are 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 disposed in plastic bottle with lid.

8- EXPOSURE CONTROL AND INDIVIDUAL PROTECTION

When handling, use the appropriate Personal Protective Equipment:

- Dust mask: protection to 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

- The product remains stable when protected from moisture and light.
- It may be reactive in the presence of strong acids 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 disposed 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

Product with no transport restrictions, as it is classified as non-hazardous and does not show any potential or spontaneous chemical changes. Not subject to transport regulations.

15- REGULATORY INFORMATION

Not applicable.

16- ABBREVIATIONS

- . SDS: Safety Data Sheet
- . 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 - Ficha de informações de segurança de produtos químicos – FISPQ.
- Ministério do Trabalho e Emprego - Informações sobre Normas Regulamentadoras de Segurança e Saúde no Trabalho (NR 15 – anexo 12).
- Occupational Safety & Health Administration (OSHA).
- Chemical Abstract Service from American Chemical Society Website.
- ISO/TR 11773:2013_ED1 – “Reference Materials”