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In accordance with NBR 14725

Product: POTASSIUM CARBONATE, SOLUTION - K_2CO_3

1. IDENTIFICATION

Product Identification: POTASSIUM CARBONATE, SOLUTION - K_2CO_3 **Other ways of identification:** -**Recommended uses and restrictions on use:** Manufacture of Special Glass; Manufacture of Potassium Silicate; Food Industry.**Supplier Details:**

Katrium Chemical Industries SA

Address: João Paulo Road, 530 – Honório Gurgel

Zip Code: 21512-002

Rio de Janeiro/RJ – Brazil

Contact telephone number: 55 (21) 2472-9060

Emergency Telephone Number: AMBIPAR RESPONSE - 0800 117 2020

2. HAZARD IDENTIFICATION

GHS classification of the substance or mixture:

Skin corrosion/irritation: Category 2 Serious eye damage/eye irritation: Category 2A

Specific Target Organ Toxicity – Single Exposure: Category 3

Classification system used:

ABNT-NBR 14725 standard.

Globally Harmonized System for the Classification and Labeling of Chemicals, UN.

GHS labeling elements, including precautionary statements:**Words of warning:** ATTENTION**Hazard phrase(s):**

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

H335 – May cause respiratory irritation.

Precautionary phrase(s): PREVENTION

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection

P305 IF IN EYES:

P351 Rinse cautiously with water for several minutes.

P338 If wearing contact lenses, remove them if easy to do. Continue rinsing.

P337 IF EYE IRRITATION PERSISTS:

P313 Consult a doctor.

P304 IN CASE OF INHALATION:

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P340 Remove person to fresh air and keep at rest in a position comfortable for breathing.

P403 Store in a well-ventilated place

P233 Keep container tightly closed.

EMERGENCY RESPONSE:

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing. P337 + P313 – If eye irritation persists: Get medical advice/attention. P304 + P340 – IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

STORAGE:

P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.

DISPOSITION:

P501 Dispose of contents and container in accordance with local regulations.

Other hazards that do not result in a classification:

There is a danger of poisoning.

3. COMPOSITION AND INFORMATION ON INGREDIENTS**MIXTURE:** POTASSIUM CARBONATE

Ingredients, impurities and/or stabilizing additives that contribute to the hazard:

Potassium carbonate - K_2CO_3 (CAS 584-08-7): 49.0%Water – H_2O (CAS -): 51%**4. FIRST AID MEASURES****Inhalation:**

Remove the person from the contaminated area. Find a well-ventilated area. If the person is not breathing, resuscitate and administer oxygen. Seek medical attention immediately.

Skin contact:

Immediately wash the affected area with plenty of water for at least 20 minutes. **Consult** a doctor for treatment.

Eye contact:

With the eye kept open, rinse immediately with plenty of water for at least 20 minutes. Consult an ophthalmologist immediately if symptoms persist. When handling caustic substances, notify an emergency physician immediately (keywords: eye burns).

Ingestion:

Immediately dilute the chemical by drinking large amounts of water or milk. Vomiting may occur spontaneously, but do not induce it. Seek medical help immediately.

Most important symptoms and effects, acute or delayed:

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Indication of immediate medical attention and special treatments required, if necessary:

Provide eye and skin wash facilities near the work area.

5. FIRE FIGHTING MEASURES

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Extinguishing media:

Water spray, foam, CO_2 , dry chemical powder.

Specific hazards arising from the substance or mixture:

The product is not flammable.

Special protective measures for firefighting personnel:

In case of insufficient ventilation, use suitable respiratory equipment.

6. CONTROL MEASURES FOR SPILLS OR LEAKS

For non-emergency personnel

If you observe an emergency situation involving a leak, spill, or accidental release, immediately report the accident to those responsible and stay away. If possible, eliminate ignition sources and provide sufficient ventilation to remove contaminants.

For emergency service personnel

Evacuate people from the affected area, isolate the risk area, restrict product leakage by closing valves and turning off pumps, and prevent contact with the environment containing the product by storing it in containment dikes or appropriate containers. Use personal protective equipment as described in section 8.

Environmental precautions:

Avoid environmental contamination. Do not allow to come into contact with sewage or rainwater. Do not dump on the ground.

Methods and materials for containment and cleaning:

Isolate the area and collect the product. Remove the product with appropriate tools. Place the residue in a suitable container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling**Prevention of worker exposure:**

Wear personal protective equipment. Avoid dust formation.

Fire and explosion prevention:

The substance is not flammable.

Precautions and guidelines for safe handling:

The usual precautions for handling chemicals should be observed. Avoid any direct contact with the material.

Hygiene measures**Appropriate:**

Wash your hands before any break and at the end of the work period. Do not eat or smoke during the work period. Remove contaminated clothing immediately.

Inappropriate:

Do not eat, drink or smoke when handling the product.

Conditions for safe storage, including any incompatibilities**Suitable conditions:**

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Conditions for safe storage, including any incompatibilities . Keep the container tightly closed in a dry, well-ventilated place.

Conditions to be avoided, including any incompatibilities**Packaging materials****Recommended:** Plastic.**Unsuitable:** Copper, brass, light metals.**Other information:**

Keep the container hermetically sealed. Use dikes or natural barriers to contain any product leaks. Absorb while dry. If possible, stop the leak using stoppers, sealing tape, or by turning the hole, tear, or dent upward. Collect all material in suitable, properly labeled containers for later treatment and disposal. Waste must be disposed of in accordance with local, state, or federal environmental regulations. For overflow, find an appropriate location and follow the safety procedures described above.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION**Control parameters****Occupational exposure limits:**

The values below are applicable for work environments.

Potassium Carbonate:

MTE NR 15 – LT: There is no established exposure limit, unclassified product.

OSHA - PEL - TWA: No exposure limit established, product not classified.

NIOSH - REL - TWA: No exposure limit established, product not classified.

NIOSH - REL - STEL: No exposure limit established, product not classified.

ACGIH - TLV - TWA: No exposure limit established, product not classified.

Biological indicators:

There are no biological exposure indicators established by Brazilian legislation – NR 07.

Engineering control measures:

Gas scrubber

Personal protective measures

Eye/face protection : Wide-vision safety glasses.

Skin protection : Rubber gloves (PVC) and PVC boots.

Respiratory protection : PFF1 / PFF2 respirator

Thermal hazards : Not available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid

Color: Colorless

Odor: Odorless

Melting point/freezing point: Not available / -21 to 17 °C

Boiling point or initial boiling point and boiling range: Not available

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Product: POTASSIUM CARBONATE, SOLUTION - K_2CO_3 **Flammability:** Non-flammable**Lower and upper explosive/flammability limits:** Not available**Flash point:** Non-flammable**Autoignition temperature:** Not available**Decomposition temperature:** Not available**pH:** not applicable**Kinematic viscosity:** Not available**Solubility:** 100%**Partition coefficient – n-octanol/water (log value):** Not available**Vapor pressure:** Not available**Density and/or relative density:** 1.5 kg/L**Relative vapor density:** Not available**Particle characteristics:** Not available

10. STABILITY AND REACTIVITY

Reactivity: Exothermic reaction with acids. Evolution of carbon dioxide.**Chemical stability:** Stable under recommended storage and handling conditions see handling and storage.**Possibility of hazardous reactions:** Reaction with acidic substances (bases).**Conditions to avoid:** None known.**Incompatible materials:** Strong acids and oxidizing agents.**Hazardous decomposition products:** Carbon Dioxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: In contact with skin and/or eyes, causes irritation.**Skin corrosion/irritation:** Causes skin irritation**Serious eye damage/eye irritation:** Causes serious eye irritation**Respiratory or skin sensitization:** May cause respiratory irritation**Germ cell mutagenicity:** Conclusion: not sufficient for classification**Carcinogenicity:** Conclusion not sufficient for classification**Reproductive toxicity:** Conclusion not sufficient for classification**Specific target organ toxicity - single exposure:** Conclusion not sufficient for classification**Specific target organ toxicity - repeated exposure:** Conclusion not sufficient for classification**Aspiration hazard:** May cause respiratory irritation.**Other information:** Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not classified as toxic. Large spills can cause harm to aquatic life and water quality.**Persistence and degradability:** Not available

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Bioaccumulative potential: Not potentially bioaccumulative

Mobility in soil: Soluble in water – Final destination of the product: Water.

Other adverse effects: Do not allow to enter septic tanks, rivers and rainwater.

13. CONSIDERATIONS ON FINAL DESTINATION

Recommended methods for final disposal

Product: Keep any leftover product in its original, properly sealed packaging. Do not dispose of it in sewage systems, waterways, or wastewater treatment plants.

Used packaging: Do not reuse empty packaging. Packaging should be washed and neutralized. Improper disposal of empty packaging and product residues in the environment causes soil, water, and air contamination, harming fauna, flora, and human health.

14. TRANSPORTATION INFORMATION

National and international regulations

LAND: ANTT - National Land Transportation Agency:

Resolution No. 5,998, of November 3, 2022: Updates the Regulation for the Road Transportation of Dangerous Products, approves its Supplementary Instructions, and provides other measures.

UN Number: Products not covered by the current ordinance on the transport of dangerous products.

Proper shipping name: POTASSIUM CARBONATE

Main risk class or subclass: Products not covered by the current ordinance on the transportation of dangerous goods. This form is a spontaneous contribution.

Subsidiary risk class or subclass: Products not covered by the current ordinance on the transportation of dangerous goods. This form is a spontaneous contribution.

Packing group: II

WATERWAY: DPC - Directorate of Ports and Coasts (Transportation in Brazilian waters). Maritime Authority Regulations:

NORMAM 01/DPC: Vessels Used in Navigation on the Open Sea.

NORMAM 02/DPC: Vessels Used in Inland Navigation.

NORMAM 05/DPC: Material Approval.

IMO - International Maritime Organization:

IMDG Code - International Maritime Dangerous Goods Code.

UN Number: Products not covered by the current ordinance on the transport of dangerous products.

Proper shipping name: POTASSIUM CARBONATE

Main risk class or subclass: Products not covered by the current ordinance on the transportation of dangerous goods. This form is a spontaneous contribution.

Subsidiary risk class or subclass: Products not covered by the current ordinance on the transportation of dangerous goods. This form is a spontaneous contribution.

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Environmental hazard:

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When potassium carbonate is spilled in dry conditions, it can be scooped up with a shovel for recycling and/or disposal (Caution! Avoid inhaling the dust or contact with skin). Any residue remaining on the ground and surfaces should be washed with water. The operation should only cease after a neutral pH is achieved. The generation of contaminated liquid, which could reach water sources, must be avoided at all costs.

AIR : ANAC - National Civil Aviation Agency: Resolution No. 714, of April 26, 2023. RBAC (Brazilian Civil Aviation Regulation) No. 175:

Transportation of Dangerous Goods on Civil Aircraft.

IS No. 175-001 - Supplementary Instruction.

ICAO (International Civil Aviation Organization):

Doc 9284 AN/905 (Technical Instructions for the Safe Transport of Dangerous Goods by Air).

IATA - International Air Transport Association:

DGR - Dangerous Goods Regulation.

UN Number: Products not covered by the current ordinance on the transport of dangerous products.

Proper shipping name: POTASSIUM CARBONATE

Main risk class or subclass: Products not covered by the current ordinance on the transportation of dangerous goods.

This form is a spontaneous contribution.

Subsidiary risk class or subclass: Products not covered by the current ordinance on the transportation of dangerous goods. This form is a spontaneous contribution.

Packing group: II

Specific precautionary measures and conditions:

When potassium carbonate is spilled in dry conditions, it can be scooped up with a shovel for recycling and/or disposal (Caution! Avoid inhaling the dust or contact with skin). Any residue remaining on the ground and surfaces should be washed with water. The operation should only cease after a neutral pH is achieved. The generation of contaminated liquid, which could reach water sources, must be avoided at all costs.

15. REGULATORY INFORMATION

Specific safety, health and environmental regulations for the chemical:

BRAZIL – MINISTRY OF LABOR AND EMPLOYMENT – NR 26.

BRAZIL – MINISTRY OF TRANSPORTATION – ANTT.

BRAZIL – ABNT NBR 14725

16. OTHER INFORMATION

Important information, but not specifically described in the previous sections:

This SDS was prepared based on current knowledge of the chemical product and provides information on protection, safety, health and the environment.

Please note that handling any chemical substance requires prior knowledge of its hazards by the user. It is the responsibility of the company using the product to train its employees and contractors regarding the potential risks posed by the product.

References: [ABNT] BRAZILIAN ASSOCIATION OF TECHNICAL STANDARDS NBR 14725.

[BRAZIL] BRAZIL. Ministry of Transport. National Land Transport Agency.

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[ECHA] European Union. ECHA European Chemical Agency

Subtitles and abbreviations: ACGIH – American Conference of Governmental Industrial Hygienists, CAS – Chemical Abstracts Service

[OSHA] - Occupational Safety and Health Administration

[NIOSH] - National Institute for Occupational Safety and Health

[NR] – Regulatory Standard – NR 15 Unhealthy Activities and Operations

[LT] – Tolerance Limit