FICHA COM DADOS DE SEGURANÇA

Nome do Produto: ACIDO SULFURICO

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1 - Identificação

Nome do Produto: ACIDO SULFURICO
Número da FDS: 557
Comercializado por: Morais de Castro Comércio e Importação de Produtos Químicos Ltda.
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1.1-Outras maneiras de identificação:
Hydrogen Sulphate, Vitrial Oil, Fertilizer Acid, Battery Acid

1.2-Usos recomendados do produto químico e restrições de uso:
Recommended main uses for the substance: Industrial
Product for industrial use in Fertilizers; Food; Sulfates in general; Batteries; Mineral oil refining; Metallurgy and Electroplating; Detergents and cosmetics; Cellulose.

2 - Identificação de perigos

Classification system used:
Standard ABNT-NBR 14725-Part 2: 2010. Adoption of the Globally Harmonized System for the Classification and Labeling of Chemicals, UN. Classification of substance:
Corrosive to metals - Category 1
Acute toxicity - oral - category 5
Acute toxicity - inhalation - category 5
Corrosive / irritant to skin - category 1A
Serious eye damage / eye irritation - category 1
Skin Sensitivity - Category 1
Carcinogenicity - category 2
Systemic toxicity in target organ after single exposure-cat.1 and 2
Systemic toxicity to target organ after repeated exposure - category 1
Harmful to aquatic environment - category 3 Acute toxicity
Appropriate labeling elements:

Pictogramas:

Hazard Statements:
H290 May be corrosive to metals.
H303 May be harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause allergic skin reaction.
H333 May be harmful if inhaled.

H351 Suspected of causing cancer.
H370 Causes damage to the digestive system if swallowed.
H371 May cause damage to breathing system if inhaled.
H372 Causes damage to breathing system by repeated or prolonged exposure if inhaled.
Precautionary statements:
Prevention:
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves, protective clothing, eye protection and face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove Take off all contaminated clothing immediately. Rinse skin with water or shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep at rest. resting in a non-breathing position.
P305 + P351 + P338 IF IN EYES: Rinse thoroughly with water for several minutes. In the case of contact lens wear, remove them, if it is easy. Continue rinsing.
P363 Wash contaminated clothing before re-use.

3 - Composição e Informações sobre os ingredientes

Chemical Substance or Common Name: Sulfuric acid
Synonym:
CAS Registry Number: 7664-93-9
Impurity contributing to the hazard: No impurities that contribute to the hazard.

4 - Medidas de primeiros-socorros

First aid actions Inhalation:
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Feel like you contact an INFORMATION CENTER TOXICOLOGICAL INFORMATION or a doctor. Take this MSDS. Get medical attention. Take this MSDS.
Contact with skin: Immediately flush exposed skin with a sufficient amount of water to remove material. Remove clothing or contaminated accessories. In case of minor contact with skin, avoid spreading the product in unattached areas. Consult a physician. Take this MSDS.
Contact with eyes: Rinse with running water for at least 15 minutes, keeping the eyelids open and lifting them occasionally. Remove contact lenses when applicable. Get medical attention. Take this MSDS.
Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Wash the victim's mouth with water abundance. Consult a physician immediately. Take this FISPQ.
Most important symptoms and effects, both acute and delayed: May be harmful if swallowed and if inhaled. Causes severe skin burns and eye damage with pain, blistering and flaking, burning, tearing and pain. You can allergic reactions to the skin. The single exposure may cause bronchoconstriction, respiratory distress and ulcer. Repeated exposure causes bronchitis, chest pain and emphysema.
Main symptoms:
Gastric bleeding, vomiting, nausea, pain, necrosis, darkening and dryness of the skin, rapid pulse, breathing superficial, scarce urine; scars on the skin, cornea and oropharynx, pigmentation and erosion of the teeth. Protection of the distress provider and / or notes to the physician: Avoid contact with the product when succoring the victim. If necessary, symptomatic treatment should include, above all, supportive measures such as correction of hydroelectrolytic, metabolic disorders, as well as respiratory assistance. In case of contact with the skin does not rub the affected area.

5 - Medidas de combate a incêndio

Extinguishing Media:
Appropriate: Compatible with foam, water fog, chemical powder and carbon dioxide (CO2). Not recommended: water directly.
Specific hazards of the substance: At high temperatures it may release irritating and / or toxic and corrosive gases. Closed containers may explode with the heat. Water applied directly on sulfuric acid results in violent release of heat. Use water only if absolutely necessary and very carefully. For major incidents, flood the area with water, keeping a safe distance from the place. The reaction with metals can produce hydrogen gas highly flammable, especially inside tanks and pipes. Toxic fumes generated by combustion may be accumulate in confined areas. Vapors may be denser than air and tend to accumulate in low or confined areas such as sewers and holds. Containers may explode if heated.
Protective measures for firefighters: Wear self-contained breathing apparatus (SCBA) with positive pressure and full protective clothing. Containers and tanks involved in the fire should be cooled by a water mist.

6 - Medidas de controle para derramamento ou vazamento

Personal precautions, protective equipment, and emergency procedures
Personal precautions for personnel not in the emergency room:
Do not smoke. Avoid contact with product. If necessary, use personal protective equipment as described in section 8.
Personal precautions for emergency room personnel:
Isolate leaking sources of ignition preventively. Neoprene protective gloves. Protective gloves of the type PVC (vinyl). Suitable protective clothing: acid resistant. Eye protection (safety glasses vision), which must be resistant to impact protection and provide splash protection.
Environmental Precautions: Do not allow product to reach ground water, water course or sewage system.
Methods for containment and cleaning up: Use water fog or vapor suppressing foam to reduce the dispersion of vapors. Use natural or spill containment barriers. Collect spilled product and place in proper containers. Adsorb remaining product with dry sand, earth, vermiculite, or any other inert material. Place the material adsorbed in appropriate containers and remove to a safe place. Use tools that do not sparks to collect the absorbed material. For final destination, proceed as per Section 13 of this MSDS.
Differences in the action of large and small leaks: There is no distinction between the actions of large and small leaks for this product.

7 - Manuseio e armazenamento

Precautions for safe handling
Prevention of worker exposure:
Handle in a well-ventilated area or with general local exhaust ventilation. Avoid formation of vapors and mists. If necessary, use personal protective equipment as described in section 8.
Hygiene measures: Wash hands and face thoroughly after handling and before eating, drinking, smoking or go to the bathroom. Safe storage conditions, including any incompatibility
Prevention of fire and explosion: The product is not expected to present a fire or explosion hazard.
Precautions and guidelines for safe handling: Instruct the staff about the corrosive nature of Sulfuric Acid. For dilutions in water, always pour acid over water to avoid violent reactions with heat generation and acid scattering. Empty containers, transfer of liquids, dilutions, dissolutions, etc. avoiding liquid projections. Pipetting should be done with accessories. Avoid contact with skin, eyes and clothing. Avoid breathing dust from the product. Use personal protection as directed in Section 8.
Hygiene measures: Do not eat, drink or smoke while handling the product. Wash hands thoroughly before eating, drinking, smoking or going to the bathroom. Clothing should be changed and washed prior to re-use. Safe storage conditions, including any incompatibility
Prevention of fire and explosion: The product is not expected to present a fire or explosion hazard.
Suitable conditions: Store in a well-ventilated place away from sunlight. Keep container closed. Keep stored in temperature not exceed 35 ° C. No addition of stabilizers and antioxidants is required to ensure product durability.
Suitable materials for packaging: Carbon steel tanks, Glass flasks for small quantities. Inadequate packaging materials: Rubber and plastic containers.

8 - Controle de exposição e proteção individual

Control Parameters:
Occupational exposure limits Ingredient / TLV-TWA (ACGIH, 2015): 0.2 mg / m³ (T) (T) Thoracic
Fraction Biological indicators: Not established.
Other limits and values: Not established.
Engineering control measures: Provide mechanical ventilation and direct exhaust system to the outside environment. These measures reduce the exposure to the product. Keep the atmospheric concentrations of the constituents of the product below occupational exposure limits.
Personal protection measures Eye/face protection: Eye protection (wide-angle safety goggles), which should be impact resistant and splash protection.
Skin and body protection: Protective clothing suitable: resistant to acids. Neoprene protective gloves. Protective gloves of the type PVC (vinyl). Respiratory protection: A risk assessment should be performed to adequately define the respiratory protection taking into account the conditions of use of the product. Follow Respiratory Prevention Program (PPR) guidance, Fundacentro. Thermal hazards: No thermal hazards.

9 - Propriedades físicas e químicas

Appearance (physical state, shape, and color): Viscous liquid Colorless to brown
Odor and Odor Threshold: Irritant (Odor threshold: 0.15 ppm)
pH: < 2
Melting point/freezing point: 10 ° C
Initial boiling point and boiling temperature range: 290 ° C
Flashpoint: Not available.
Evaporation Rate: Not available.
Flammability (solid, gas): Not applicable.
Upper / lower flammability or explosive limits: Not available.
Vapor pressure: < 0.001 mmHg at 20 ° C
Vapor Density: Not available.
Relative density: 1.836 (water at 4 ° C = 1)
Solubility (ies): Miscible with water.
Partition coefficient - n-octanol / water: log Kow: 2.20 (calculated)
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.
Other information: Not applicable.

10 - Estabilidade e reatividade

Reactivity / Chemical Stability:
Product stable under normal conditions of temperature and pressure.
Possibility of hazardous reactions: Reacts violently with water and organic materials with the release of heat. Reacts violently with metals forming flammable and / or explosive gases. It can react violently with ortho and p-nitroaniline and permangants.
Conditions to avoid: High temperatures. Incompatible materials or substances Acetic acid, aldehydes, amines, carbides, ketones, chlorates, combustible materials, materials organic, alkali metals, nitrates, strong oxidants and perchlorates.
Hazardous decomposition products: No dangerous decomposition products known.

11 - Informações toxicológicas

Information according to the different routes of exposure
Acute toxicity: It can cause gastric complications and corrosion of the mucous membranes of the mouth, throat and esophagus, gastritis, glottis edema, gastric hemorrhage, vomiting, nausea, and pain. Circulatory collapse may occur and cause renal insufficiency with poor urine output, liver, and heart damage, increasing pulse rate and to death
LD50 (oral, rats): 2660mg / kg
LC50 (inhalation, rats, 4h): 0.375mg / L
Skin corrosion/irritation: Causes severe burns to the skin with pain, blistering and peeling.
Serious eye damage/eye irritation: Causes severe eye damage with burning, lacrimation, and pain. Respiratory or skin sensitization May cause allergic skin reactions.
Germ cell mutagenicity: The product is not expected to mutagenicity into cells germination.
Carcinogenicity: Suspected of causing cancer.
Reproductive toxicity: The product is not expected to be reproductive toxicity.
Specific target organ toxicity - single exposure: Causes damage to the digestive system if swallowed. cause ulcer. May cause damage to breathing system if inhaled, resulting in bronchoconstriction and Respiratory.
Specific target organ toxicity - repeated exposure: Causes respiratory tract damage due to exposure repeated or prolonged if inhaled and may cause bronchitis, septum, and chest pain.
Aspiration hazard: The product is not expected to be aspiration hazard.

12 - Informações ecológicas

Environmental effects, behavior, and impacts of the product Ecotoxicity:
The product is not expected to be ecotoxic. Product classified as dangerous for aquatic organisms.
LC50 (fish: Lepomis macrochirus, 96h) = 16-28mg / l
EC50 (crustacean: Crangon crangon, 48h) = 70-80 mg / l
Persistence and degradability: The product shows rapid degradation and low persistence
Bioaccumulative potential: The product has a low potential for bioaccumulation in aquatic organisms.
BCF = 3.16 (estimated value) **Log kow** = -2.20 (estimated value)
Mobility in soil: Not determined. Other adverse effects: Due to the acid character of the product it may cause changes in the environmental compartments causing damage to organisms.

13 - Considerações sobre destinação final

Recommended methods for final destination
Product: Treatment and disposal should be evaluated specifically for each product. Legislation should be federal, state and municipal governments, among which: Law No. 12,305 of August 2, 2010 (National Waste Policy Sóolidos).
Remains of products: Keep product residues in their original containers and properly closed. Disposal should be in accordance with the established for the product.
Used packaging: Do not reuse empty containers. These may contain product residues and must be kept closed and routed for appropriate disposal as established for the product.

14 - Informações sobre transporte

National and international regulations Land:
Resolution No. 420 of 12 February 2004 of the National Land Transport Agency (ANTT), Approves the Supplementary Instructions to the Regulations of the Land Transport of Dangerous Goods and their modi fi cations.
UN Number: 1830
Proper shipping name: SULFURIC ACID, with more than 51% acid
Risk class / main risk subclass: 8
Subsidiary risk / subclass risk class: NA
Number of risk: 80
Packing Group: II

Waterway: DPC - Directory of Ports and Coasts (Transportation in Brazilian waters) Maritime Authority Regulations (NORMAM) NORMAM 01 / DPC: Embarkation Vessels in Open Sea Navigation NORMAM 02 / DPC: Vessels employed in Inland Navigation IMO - "International Maritime Organization" (Maritime Organization International). International Maritime Dangerous Goods Code (IMDG Code).
UN number: 1830
Proper shipping name: SULFURIC ACID, with more than 51% acid
Class or division: 8
Subsidiary risk: NA
Packing group: II
Marine pollutant: No
EmS: F-A, S-B

Air: ANAC - National Civil Aviation Agency - Resolution n ° 129 of December 8, 2009. RBAC N ° 175 - (Brazilian Civil Aviation Regulation) - Transport of Dangerous Goods in Civil Aircraft. IS N ° 175-001 - Supplementary Instruction. ICAO - "International Civil Aviation Organization" - Doc 9284-NA / 905 IATA - "International Air Transport Association" Dangerous Goods Regulation (DGR).
UN number: 1830
Proper shipping name: SULFURIC ACID, with more than 51% acid
Class or division: 8
Subsidiary risk: NA
Packing group: II
Additional regulations: Not available.

15 - Informações sobre regulamentações

Regulatory information: Federal Decree No. 2,657, of July 3, 1998; Standard ABNT-NBR 14725: 2014; Ordinance no. 229, of May 24, 2011 - Alters Regulatory Rule no. 26. Portaria N ° 1,274, of August 25, 2003: Product subject to control and inspection of the Ministry of Justice - Federal Police Department - MJ / DPF, when dealing with import, export and re-export, being indispensable Previous DPF Authorization to perform these operations.

16 - Outras Informações

Regulatory information: Federal Decree No. 2,657, of July 3, 1998; Standard ABNT-NBR 14725: 2014; Ordinance no. 229, of May 24, 2011 - Alters Regulatory Rule no. 26. Portaria N ° 1,274, of August 25, 2003: Product subject to control and inspection of the This MSDS has been developed based on the current knowledge of the chemical and provides information on the protection, safety, health and the environment. It is advised that the handling of any chemical substance requires prior knowledge of its hazards by the user. It is up to the user company to promote the training of its employees and contractors regarding the possible risks from the product. Acronyms: Subtitles and abbreviations: LC50 - Concentration with Lethal 50% LD50 - Lethal dose 50% UN - United Nations OrganizationJustice - Federal Police Department - MJ / DPF, when dealing with import, export and re-export, being indispensable Previous DPF Authorization to perform these operations.

References:
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BRASIL. MINISTÉRIO DO TRABALHO E EMPREGO (MTE). Norma Regulamentadora (NR) n°7: Programa de controle médico de saúde ocupacional. Brasília, DF. Jun. 1978.
Globally Harmonized System of Classi cation and Labelling of Chemicals (GHS). 6. rev. ed. New York: United Nations, 2015.

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INTERNATIONAL UNIFORM CHEMICAL INFORMATION DATABASE. [S.1.]: European chemical Bureau. Avaible in http:/ecb.jrc.ec.europa.eu. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Avaible in: http:/www.cdc.gov/niosh/. Acess in: Ago/2016 Sistema de Informações sobre Riscos de Exposição Química. Disponível em: http:/www.intertox.com.br/. Acess in: Ago/2016