

## FICHA COM DADOS DE SEGURANÇA

Nome do Produto: ACIDO SULFONICO, 96%[DETEN]-P

Revisão: 01 (Ing)

Data: 18/07/2023

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### 1 - Identificação

Nome do Produto: ACIDO SULFONICO, 96%[DETEN]-P

Número da FDS: 4849

Comercializado por: Morais de Castro Comércio e Importação de Produtos Químicos Ltda.

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#### 1.1-Outras maneiras de identificação:

The most widely used surfactant in the world for the production of liquid detergents and powders for use in household cleaning, and in other detergent formulations for industrial and institutional applications.

#### 1.2-Usos recomendados do produto químico e restrições de uso:

### 2 - Identificação de perigos

Classification of the substance or mixture:

Acute toxicity: Category 4 (Oral), H302 Skin

corrosion and irritation: Category 1 C, H314

Serious eye damage / irritation: Category 1, H318

#### GHS label elements

Pictograms:

Pictogramas:



Warning word:

Danger

#### Hazard statements:

H302 - Harmful if swallowed.

H314 - Causes severe skin burn and eye damage.

H318 -

Causes serious eye damage.

#### Precautionary statements:

Prevention

P207 - Do not eat, drink or smoke when using this product.

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P264 -

Wash thoroughly after handling.

### Emergency response

P301 + P312 - IF SWALLOWED: If you feel unwell, contact a TOXICOLOGICAL INFORMATION CENTER / doctor.

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304 + P340 + P311 - IF INHALED: Remove person to fresh air and keep at rest in a position that does not make breathing difficult. Contact a TOXICOLOGICAL INFORMATION CENTER / doctor immediately.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. In the case of contact lenses, remove them if it is easy. Continue rinsing.

### Storage

P405 - Store locked up.

### Disposition

P501 - Dispose of contents / container in accordance with local, regional, national and international regulations.

### Other hazards that do not result in classification:

Not applicable

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### 3 - Composição e Informações sobre os ingredientes

#### MIX

**Chemical or common name:** Linear Acid Alkylbenzene Sulphonic.

**Chemistry nature:** Aromatic sulfonic acid.

Ingredients or impurities that contribute to the hazard:

**Chemical or common name:** Benzene sulfonic acid, 4 C10 - 13 - sec - alkyl derivatives

**CAS registration number:** 85536 - 14 - 7

**Concentration or concentration range:** 96%

### 4 - Medidas de primeiros-socorros

#### First aid actions:

**Inhalation:** Remove the victim to an outdoor area and keep him at rest in a position that does not make breathing difficult. If shortness of breath occurs, irregular breathing or respiratory arrest, perform artificial respiration, provide oxygen or cardiopulmonary resuscitation by a trained person.

Loosen parts adjusted to the clothing, such as collar, tie, belt or belt.

If the person is unconscious, put him or her in a recovery position and seek medical help immediately. Seek medical attention immediately.

**Skin contact:** Immediately remove contaminated clothing and shoes.

Wash exposed areas with large amounts of water for at least 15 minutes. If irritation occurs, seek medical attention.

Wash clothing before reuse.

Clean shoes thoroughly before reusing them.

**Eye contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check if contact lenses are being used and remove them.

Continue rinsing for at least 15 minutes. Seek assistance from an ophthalmologist.

**Ingestion:** Drink a neutralizing agent (eg magnesia) dissolved in milk.

Remove the denture, if any.

Remove the victim to an open air area and keep him at rest in a position that does not make breathing difficult.

If the material has been ingested and the exposed person is conscious, provide small amounts of water to drink. Stop if the person feels nauseous.

Do not induce vomiting unless directed to do so by a physician.

If vomiting occurs, the head should be kept flat so that vomit does not enter the lungs.

If the person is unconscious, put him or her in a recovery position and seek medical help immediately.

#### Most important symptoms and effects, acute or delayed:

##### Symptoms

It can cause burns in the mouth, throat and stomach.

It causes irritation in the respiratory tract (very irritating gases or vapors), severe skin burns and serious eye damage.

#### It is made

Stomach pain

Pain or irritation, redness, blistering of the skin. Pain, watering and redness in the eyes.

#### Notes to doctor

Treat symptomatically.

Vomiting and gastric lavage measures are contraindicated.

Try to dilute the acid by administering a large amount of water or milk. Do not take any action if there is a personal risk or inadequate training.

If vapors are suspected, the rescuer should wear a suitable mask or self-contained breathing apparatus. It can be dangerous to anyone who applies artificial respiration.

Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

### 5 - Medidas de combate a incêndio

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**Suitable extinguishing media:** : Use dry chemical powder, CO two, water in the form of fog or mechanical foam.

**Extinguishing media not recommended:** Jets of water directly over the burning liquid.

**Specific hazards of the substance or mixture:** During firing, toxic SO gases may be released two and H two S. In the event of a fire or heating, a pressure increase will occur and the container may burst. In combustion releases toxic and corrosive gases such as carbon monoxide, carbon dioxide and sulfur oxides. Special complete protective equipment for firefighters. Position yourself with your back to the wind. Wear an autonomous mask when fighting fires. Define the working zones (hot, warm and cold).

**Fire protection team protection measures Fire fighting methods:** Turn off all sources of ignition. Apply the defined extinguishing agent properly. If the fire cannot be extinguished, try to cool the facilities nearby and let the fire burn in a controlled manner.

## 6 - Medidas de controle para derramamento ou vazamento

### Personal precautions, protective equipment and emergency procedures For

**non-emergency personnel :** Use personal protective equipment. Avoid inhalation, contact with eyes and skin.

**For emergency service personee:** Wear chemical resistant protective clothing, PVC gloves and boots. Splash goggles. If vapors are suspected, the rescuer should wear a suitable mask or self-contained breathing apparatus. It can be dangerous to anyone who applies artificial respiration.

Wash contaminated clothing thoroughly with water before removing it, wear gloves during the entire operation.

### Environmental precautions :

**In land:** Prevent the flow of the product to rivers, streams, underground water courses or low areas, sewers, wells, as well as soil and vegetation.

Absorb with absorbent material (sand, acid binding agent, universal binding agent, sawdust). Collect all waste in suitable, labeled containers and dispose of in accordance with local regulations. Inform the authorities and alert the neighborhood if necessary.

**In water:** Communicate to the port, relevant authorities and other vessels. Block the spill area and avoid ecological damage. Remove the product from the surface by absorbing the contaminated layer with suitable absorbents.

### Methods and materials for containment and cleaning:

Absorb with absorbent material (sand, acid binding agent, universal binding agent, sawdust). Place in a suitable container for recycling or disposal.

The material can be incinerated under normal controlled conditions, in accordance with official and local regulations.

## 7 - Manuseio e armazenamento

### Precautions for safe handling

Handle in a ventilated area or with a general local ventilation / exhaust system. Avoid formation of vapors / mists.

Avoid contact with incompatible materials. Wear appropriate protective equipment. Handle the product in a cool, well-ventilated place. Do not handle in metal containers.

In cargo operations! unloading must avoid falling from the packaging, descending on ramps without protection, rolling over rough terrain to avoid punctures, dents or disappearance of the product identification. Heavier packages must be transported by means of forklifts.

Do not mix with incompatible products, when diluting always add water and then the product, never the other way around. Label the packages.

Wash hands and face thoroughly after handling and before eating and drinking.

Remove contaminated clothing and protective equipment before entering food areas. Do not eat, drink or smoke in the area where the product is handled, stored and processed.

### Conditions for safe storage, including any incompatibilities

Store at temperatures below 40 ° C.

Store in a dry, cool and ventilated place on wooden platforms or slats.

Keep the container closed when not in use. Keep away from alkali, oxidizing agents and metals. Keep away from heat and sources of ignition. Never add water to the product.

Use stainless steel for the construction of tanks and pipes.

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Alternatively, coated carbon steel tanks (for example, with epoxy or polyester resins) can be used. Avoid exposure of drums in the sun, rain and high temperatures.

If stored in carbon steel tanks, corrosion can extract a small amount of iron, which harms the product.

Plastic containers, 316L stainless steel tanks and carbon steel tanks coated with epoxy or polyester resins.

Metallic drums with double layer of polymeric coating and free of solder points to avoid reaction of sulfonic acid with the metal.

Equipment for handling, storage or transportation must not be made of: iron, carbon steel, aluminum and its alloys, copper and its

alloys, titanium and cast.

Do not store in unlabelled containers.

Confirm the suitability of any material before using.

## 8 - Controle de exposição e proteção individual

### Control parameters

**Occupational exposure limits:** Not established.

**Biological indicators:** Not established.

**Other limits and values:** Not established.

### Engineering control measures:

In closed spaces, storage tanks can accumulate toxic gases (SO<sub>2</sub> / H<sub>2</sub>S). In this case, provide ventilation / exhaustion systems in the storage / handling locations and continuously monitor the oxygen content.

### Personal protection measures

**Eye protection face:** Splash goggles and face shield.

**Skin and body protection:** Complete clothing (pants and long-sleeved shirt), gloves and PVC boots (acid resistant).

**Breath protection:** If breathing discomfort is encountered when handling the product, use a respirator for organic vapors, gases and acidic mists.

**Thermal hazards:** Not applicable.

**Special precautions:** Chemical products should only be handled by trained and qualified people. PPE's must have CA. Strictly follow operating and safety procedures when working with chemicals.

## 9 - Propriedades físicas e químicas

**Aspect (physical state, shape, color):** Brown viscous liquid

**pH:** < 1

**Melting point / freezing point:** < - 7 ° C

**Initial boiling point and boiling temperature range:** 190 ° C

**Evaporation rate:** Not available

**Flammability (solid, gas):** Not applicable

**Lower / upper limit of flammability or explosivity:** Not applicable

**Steam pressure:** Not available

**Vapor density:** Not available

**Odor:** Spicy

**Flash point:** > 93.3 ° C (closed vessel)

**Relative density:** 1.030 to 1.035 g / cm<sup>3</sup> [25 ° C]

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**Solubility:** Easily soluble in cold or hot water

**Partition coefficient n-octanol / water:** 3.32

**Auto-ignition temperature:** 380 ° C

**Decomposition temperature:** Not available

**Kinematic viscosity:** 13.148 cm<sup>2</sup> / s [ASTM O 7042-04]

### 10 - Estabilidade e reatividade

**Chemical stability:** Stable under normal conditions of temperature and pressure.

**Reactivity:** No specific test data related to reactivity is available for this product or its ingredients.

**Possibility of dangerous reactions:** It is reactive with alkaline bases and oxidizing agents. The reaction with sulfides, phosphides, cyanides, carbides and silicides liberates poisonous gases.

**Conditions to avoid:** Contact with metals, oxides, carbonates and carbides.

**Incompatible materials:** Metals, oxides, carbonates, carbides and hydroxides.

**Hazardous decomposition products:** When burning, gases and vapors from partial and total combustion are produced, such as carbon monoxides and dioxides. The smoke can also contain sulfur oxides and hydrogen sulphide, which can be toxic.

### 11 - Informações toxicológicas

**Information on toxicological effects acute toxicity**

**Product/ingredient name:** Benzenesulfonic acid, 4-C10-13-secalkyl derivatives

**Result:** Dermal LD50

**Species:** Rabbit

**Dose:** >2000 mg/kg

**Exhibition:** -

**Result:** LD50 Oral

**Species:** Mouse

**Dose:** 1470mg/kg

**Exhibition:** -

**irritation/corrosion**

**Product/ingredient name:** Benzenesulfonic acid, 4-C10-13-secalkyl derivatives

**Result:** Eyes - Swelling of the conjunctiva

**Species:** Rabbit

**Score:** 1

**Exposure:** 3 hours

**Note:** 3 hours

**Product/ingredient name:** Benzenesulfonic acid, 4-C10-13-secalkyl derivatives

**Result:** Eyes - Moderate irritation

**Species:** Rabbit

**Punctuation:** -

**Exposure:** 0.1 ml

**Observation:** -

**Product/ingredient name:** Benzenesulfonic acid, 4-C10-13-secalkyl derivatives

**Result:** Skin - Severe irritation

**Species:** Rabbit

**Punctuation:** -

**Exposure:** 0.5 ml

**Observation:** -

**Product/ingredient name:** Benzenesulfonic acid, 4-C10-13-secalkyl derivatives

**Result:** Skin - Visible Necrosis

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Species: Rabbit  
Punctuation: -  
Exposure: 3 minutes  
Note: 3 hours

### Conclusion/Summary

Skin : Corrosive  
Eyes: Causes serious damage to eyes.

### Awareness

Not available

### Conclusion/Summary

Skin : Corrosive to the skin. Irritating to eyes.  
Respiratory : No known significant effects or critical hazards.

### Mutagenicity

Product/ingredient name: Benzenesulfonic acid, 4-C10-13-secalkyl derivatives  
Exam: EPA 471 Bacterial Reverse Mutation Test | EPA 474 Mammalian Erythrocyte Micronucleus Test  
Test: Test: In vitro Subject: Bacteria | Test: In vivo Subject: Mammals - Humans  
Result: Negative  
Conclusion/Summary : Not mutagenic in a standard battery of genetic toxicology tests

### Carcinogenicity

Not available.

### Reproduction toxicity

Not available

### Teratogenicity

Not available.

### Specific target organ toxicity – single exposure

Not available

### Specific target organ toxicity - repeated exposure

Not available

### Aspiration hazard

Not available.

**Information on likely routes of exposure:** Not available.

### **Potential acute health effects**

Eye contact : Causes serious eye damage.  
Inhalation : No known significant effects or critical hazards.  
Skin contact : Causes severe burns.  
Ingestion : Harmful if swallowed.

Symptoms related to physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, tearing, redness

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following: pain or irritation redness, blistering may occur.

Ingestion: Adverse symptoms may include the following: stomach pain

Delayed and immediate effects and also chronic short and long term effects

short term exhibition

Immediate Potential Effects: Not available.

Potential Delayed Effects : Not available.

### **Long-term exhibition**

Potential immediate effects : Not available.

Potential Delayed Effects : Not available.

### **Potential chronic health effects**

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.



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Mutagenicity : No known significant effects or critical hazards.  
Teratogenicity : No known significant effects or critical hazards.  
Birth Effects : No known significant effects or critical hazards.  
Fertility Effects : No known significant effects or critical hazards

### toxicological data

Acute toxicity estimate

Product/ingredient name : Benzenesulfonic acid, 4-C10-13-secalkyl derivatives

Oral (mg/kg): 775

Dermal (mg/kg): N/A

Inhalation (gases) (ppm): N/A

Inhalation (vapours) (mg/l) : N/A

Inhalation (dusts and mists) (mg/l) : N/A

## 12 - Informações ecológicas

### Ecotoxicity:

CLso (Daphnia magna, 48h): 9.3 - 11.6 mg / L

### Persistence and degradability:

Aerobic biodegradation is the main removal mechanism.

The hydrofflic removal of the sulfonate by an alkylsulfatase precedes beta oxidation, which results in free sulfite and sulfate groups.

Some strains of Pseudomonas can degrade the surfactant completely without prior desulfurization. Photochemical degradation has also been reported at 215 nm, resulting in formic acid and formaldehyde. (HSDB, 2002).

### Bioaccumulative potential:

the extract does not bioconcentrate in aquatic organisms

**Mobility in soil:** The extract is soluble in water with high mobility in the soil. There is no volatility in the surface of the soil or water.

Adsorption in the aqueous medium, too, is not relevant. In the atmosphere, it is in the particulate phase, undergoing wet deposition. (HSDB, 2002) .

### Other adverse effects:

There were no significant effects or critical risks.

## 13 - Considerações sobre destinação final

### Recommended methods for final disposal:

#### Product

Significant amounts of waste product waste should not be eliminated by channeling wastewater, but processed in an effluent treatment plant. Dispose of excess products and non-recyclable products through an authorized waste disposal company. The disposal of this product, solutions and any by-products must comply with the requirements of environmental protection as well as legislation for the disposal of waste according to the requirements of the local regional authorities.

#### Product remnants

Keep product remnants in their original and properly closed packaging. Disposal must be carried out as established for the product. Disposal must be carried out as established for the product. Do not mix with hydroxides (bases).

#### Used packaging

It can be corrosive, it is recommended to use stainless steel packaging or coated carbon steel tank. Use of drums must have a double layer of polymeric coating and free of solder points to avoid the reaction of sulfonic acid with the metal.

**PPE required for waste treatment and disposal:** Wear chemical safety goggles. Wear gloves raincoats, rubber boots and protective clothing to prevent skin contact. Wear respiratory protection with a filter to protect organic vapors and acid gases.



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### 14 - Informações sobre transporte

#### National and international regulations

Land:

UN number: 2586

Main risk class / subclass: 8

Subsidiary risk class / subclass: Not applicable

Risk number: 80

Packing group: III

**National Land Transport Agency (ANTT):** Resolutions N °. 420/04, 701/04, 1644/06, 2657/08 and 2975/08.

Proper shipping name: Alkylsulfonic acid, liquid

Danger to the environment: There were no significant effects or critical risks.

#### Waterway:

DPC - Directorate of Ports and Coasts (Transport in Brazilian waters)

SEP - Special Secretariat of Ports

Maritime Authority Standards (NORMAM):

- . NORMAM 01 / DPC: Vessels Employed in Open Sea Navigation

• NORMAM 02 / DPC: Vessels Employed in Inland Navigation

IMO - "International Maritime Organization" (International Maritime Organization)

International Maritime Dangerous Goods Code (IMDG Code) - Incorporating Amendment 34- 08; 2008 Edition.

UN number: 2586

Main risk class / subclass: 8

Subsidiary risk class / subclass: Not applicable

Risk number: 80

Packing group: III

Proper shipping name: Alkyl sulfonic acid, liquid

Danger to the environment: There were no significant effects or critical risks.

Air:

DAC - Department of Civil Aviation: IAC 153-1001. Civil Aviation Instruction - Rules for the transport of dangerous articles in civil aircraft.

IATA - "International Air Transport Association" Dangerous Goods Regulation (DGR) - 50th Edition, 2009.

Proper shipping name: Alkylsulfonic acid, liquid

UN number: 2586

Main risk class / subclass: 8

Subsidiary risk class / subclass: Not applicable

Risk number: 80

Packing group: III

Danger to the environment: There were no significant effects or critical risks.

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### 15 - Informações sobre regulamentações

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

### 16 - Outras Informações

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

Mandatory documents:

- a) Training certificate for the transport of dangerous products in bulk from the vehicle and equipment. (Issued by INMETRO or an entity accredited by it);
- b) Emergency form, adequate to the requirements of ABNT;
- c) Transport envelope according to ABNT NBR7504;
- d) Tax document must describe the goods, their packaging, weight, value, tax if any, name and address of the shipper, name or address of the recipient, conditions of sale or transfer, means of transport and date of departure, appropriate for each type of movement of goods. (see Ordinance No. 261/89 MT);
- e) Drivers: category meeting the vehicle specifications (A, B, C, D or E), the minimum age of 21 is required

#### References:

[HSDB] HAZARDOUS SUBSTANCES DATA BANK.  
Sodium Dodecylbenzenesulfonate. In:  
TOMES CPS tm SYSTEM.  
Toxicology; Occupational Medicine and Environmental Series.  
Englewood: Micromedex; 2002.

Captions and abbreviations:

CA: Certificate of Approval CAS:  
Chemical Abstracts Service CL50:  
50% lethal concentration LD50:  
50% lethal dose

GHS: Globally Harmonized System HERA: Human & Environmental Risk  
Assessment

HSDB: Hazardous Substances Data Bank  
UN: United Nations PVC: Polyvinyl chloride  
(Vinyl chloride)