



HANAOKA
SOLUÇÕES QUÍMICAS

SAFETY DATA SHEET

Product: Sulfuric Acid 49%

Review: 02

Date: 09/10/2023

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1 – IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

Product name
(commercial name): Sulfuric Acid 49%

Relevant Identified
uses of the substance
or mixture
Laboratory chemicals; manufacture of substances;

Uses advised against
Not for food, drug, pesticide or biocidal product;

Company: HANAOKA SOLUÇÕES QUÍMICAS

Address: Rua Balão Mágico, 835, Bairro Rio Cotia CEP: 06715-780, Cotia - SP - BR

Telephone: (11) 4615-9520

Emergency
telephone
number
0800 777 8007
ECORESPONDER - 24 HORAS

E-mail: contato@hanaoka.com.br

2 – HAZARDS IDENTIFICATION

Classification of the
substance or mixture: H290 Category 1 May be corrosive to metals
H314 Category 1A Causes severe skin burns and eye damage

Classification of the substance or mixture: Classification according to GHS Regulation NBR 14725.

Other hazards that do
not result in
classification: None.

Label elements

Pictograms:



Signal word: DANGER

Hazard statements: H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary
statements: P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray
P280 Wear protective gloves/protective clothing/ eye protection/ face protection



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P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304 + P340 + P353 IF INHALED: Remove the person to fresh air and keep comfortable for breathing. Immediately call A POISON CENTER/ doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements: None

Other hazards: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vBvP) at levels of 0.1% or higher.

3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical name	Sulfuric acid
Composition:	Sulfuric Acid: 49%; Water: 51%
Synonym:	Vitriol oil.
CAS:	Sulfuric Acid 7664-93-9
Impurities that contribute to hazard:	None.

4 – FIRST AID MEASURES

If inhaled:	If breathed in, remove person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
In case of eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallow	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed	Blindness risk! Irritation and corrosion; Coughing, superficial breathing; Nausea, vomiting, diarrhea, pain
Notes to the doctor	No data available



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5 – FIREFIGHTING MEASURES

Extinguishing media: Suitable: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Non suitable: No limitation of extinguishing agents is given to this substance.

Special hazards arising from the substance or mixture:

Possibility of formation of dangerous fumes in case of fire in the proximity area (Sulfur oxides)

Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

Environment precautions Do not let product enter drains

Methods and materials for containment and cleaning up Soak up with Inert material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7 – HANDLING AND STORAGE

Precautions for safe handling: Avoid inhalation of vapor or mist. Observe label warnings. Change all contaminated clothes and soak them into water. Prevent any contact with skin. After finishing work wash hands and face thoroughly.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully released and kept upright to prevent leakage.



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8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Derived No Effect Level (DNEL)

Application Area: Workers
Exposure routes: Inhalation
Acute local effects: 0.1 mg/m³
Long-term local effects 0.05 mg/m³

Predicted No Effect (PNEC)

Compartment	Value
Marine water	0.00025 mg/L
Fresh water	0.0025 mg/L
Marine sediment	0.002 mg/L
Fresh water sediment	0.002 mg/L
Onsite sewage treatment plant	8.8 mg/L

TLV-TWA ACGIH = 0,2 mg/m³ (TWA) 40 h weekly

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection: Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact:

Material: Viton®; Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min

Splash contact:

Material: Nitrile rubber
Minimum layer thickness: 0.2 mm
Break through time: 30 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with specific situation of anticipated use by our customers. It should not be constructed as offering an approval for any specific use scenario.



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Body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

Control of environment exposure

Do not let product enter drains.

9- PHYSICAL AND CHEMICAL PROPERTIES

Appearance: clear liquid
Odour: characteristic

pH: 1.2 a 5 g/l

Melting point/freezing: 3 °C.

Initial boiling point and boiling range: 290 °C.

Flash point: No data available

Evaporation rate: No data available

Flammability: No data available

Upper/lower flammability or explosive limits: No data available

Pressão de vapor: 1,33 hPa at 145.8C

Vapour density: 3,39 (ar = 1).

Relative density: 1,395 g/cm³ at 20 C

Water solubility: Soluble

Partition coefficient n-octanol/water: -2,20 (stimated)

Auto-ignition temperature: No data

Decomposition temperature: 340 C

Viscosity: 25,4 cP at 20 °C.

Other safety information:

Surface tension: 55.1 mN/m at 20 C



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10- STABILITY AND REACTIVITY

Reactivity: Strong acid

Stability: Stable under recommended storage conditions

Incompatible materials: Halides, organic materials, carbides, fulminates, nitrates, picrates, cyanides, chlorates, alkali halides, zinc salts, permanganates, hydrogen peroxide, azides, perchlorates, nitromethane, phosphorus,

Reacts violently with: cyclopentane, cyclopentanone oxide, nitroaryl amines, hexalithium disilicide, phosphorus (iii) oxide, powdered metals.

Hazardous decomposition products: Sulfur oxides

11- TOXICOLOGICAL INFORMATION

Acute toxicity: LD50 Oral-Rat- 2140 mg/kg
LC50 Inhalation -Rat- 2h- 510 mg/m3

Skin corrosion/irritation: Result: Extremely corrosive and destructive to tissue

Serious eye damage/: Eyes Rabbit
Result: Corrosive to eyes

Respiratory or skin sensitization: No data available.

Carcinogenicity: The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong inorganic acid mist containing sulfuric acid is carcinogenic to humans (group 1)
IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity: No data available

Specific target organ toxicity – single exposure

No data available

Specific target organ Toxicity – repeated exposure: No data available

Aspiration hazard: No data available

Additional Information

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Causes spasm, Inflammation and edema of the larynx, inflammation and edema of the bronchi, pneumotitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting,. Effects may be delayed. To the best of our knowledge the chemical , physical and toxicological properties have not been thoroughly investigated.



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12- ECOLOGICAL INFORMATION

Environment effects, behaviour and impact of the product

Ecotoxicity:	Harmful to aquatic organisms. CE ₅₀ <i>Daphnia magna</i> (water flea), 48h: 29 mg/L – 24 h; CL ₅₀ <i>Gambusia affinis</i> (mosquito fish): 42 mg/L -96 h.
Persistence and degradability:	Not applicable to inorganic substances
Results of PBT and vPvB assesment:	This substance/ mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Mobility in soil:	No data available.
Other adverse effects	Acid character of the product can cause effects on the environment causing damages to organisms

13- DISPOSAL CONSIDERATIONS

Waste treatment methods

Produto:	Offer surplus and non-recyclable solutions to a licensed disposal company
Residue of the	Keep the residues of the product in the original packages. Treat as hazard residue.
Used package:	Do not reuse the empty packages. Treat as hazard residue.

14- TRANSPORT INFORMATION

UN Number:	ADR/RID	2796
	IMDG	2796
	IATA	2796

Proper shipping name

ADR/RID	SULPHURIC ACID, with 51% or less of acid
IMDG	SULPHURIC ACID, with 51% or less of acid
IATA	SULPHURIC ACID, with 51% or less of acid

Transport hazard classes

ADR/RID	8
IMDG	8
IATA	8

Packaging group:

ADR/RID	II
IMDG	II
IATA	II

Environmental hazards

ADR/RID	no
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IMDG
IATA

Marine pollutant: no
no

Special precautions for user

No data available

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Packaging group:

ADR/RID	II
IMDG	II
IATA	II

Environmental hazards

ADR/RID	no
IMDG	Marine pollutant: no
IATA	no

Special precautions for user

No data available

15- REGULATORY INFORMATION

Safety, health and environment regulations/ legislation specific for the substance or mixture

This safety datasheet complies with the requirements of (EC) N° 1907/2006 and NBR 14725-4:2014

National and local regulation

Storage class 8B

Risk number 80

Chemical safety assessment

For this product a chemical assessment was not carried out.

16- OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H290 May be corrosive to metals

H314 Causes severe skin burns and eye damage

Further Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide.

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Micro-Química Produtos para Laboratórios Ltda shall not be held liable for any damage resulting from handling or from contact with the above product.



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Controle de alterações:

Review:	Date	Change
02	09/10/2023	Review according to ABNT NBR 14725:2023

ACGIH - American Conference of Governmental Industrial Hygienists;

CAS - Chemical Abstracts Service;

CE₅₀ - Concentração Efetiva 50%;

CL₅₀ - Concentração Letal 50%;

DL₅₀ - Dose Letal 50%;

IARC - International Agency for Research on Cancer;

NIOSH - National Institute for Occupational Safety and Health;

NR - Norma Regulamentadora;

ONU - Organização das Nações Unidas;

TLV - Threshold Limit Value;

TWA - Time Weighted Average.

Bibliographic references:

ACGIH - AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2023.

BRASIL. MINISTÉRIO DO TRABALHO E EMPREGO (MTE). Norma Regulamentadora (NR) nº15: Atividades e operações insalubres. Brasília, DF. Abr. 2022.

BRASIL. MINISTÉRIO DO TRABALHO E EMPREGO (MTE). Norma Regulamentadora (NR) nº7: Programa de controle médico de saúde ocupacional. Brasília, DF. Jan. 2022.

CONCAWE - HAZARD CLASSIFICATION AND LABELLING OF PETROLEUM SUBSTANCES IN THE EUROPEAN ECONOMIC AREA. Disponível em: <<https://www.concawe.eu/>>.

ECHA - EUROPEAN CHEMICAL AGENCY. Disponível em: <<http://echa.europa.eu/web/guest>>.

EPA - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY. Disponível em: <<https://www.epa.gov/>>.

GESTIS - SUBSTANCE DATABASE. Disponível em: <<https://gestis-database.dguv.de/>>.

GHS - GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS. 9th rev. ed. New York: United Nations, 2021.

HSDB - HAZARDOUS SUBSTANCES DATA BANK. Disponível em: <<http://pubchem.ncbi.nlm.nih.gov/>>.

IARC - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Disponível em: <<http://monographs.iarc.fr/ENG/Classification/index.php>>.

NIOSH - NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Disponível em: <<http://www.cdc.gov/niosh/>>.

OSHA - OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION. UNITED STATES DEPARTMENT OF LABOUR. <<https://www.osha.gov/chemicaldata/search>>.

REACH - REGISTRATION, EVALUATION, AUTHORIZATION AND RESTRICTION OF CHEMICALS. Commission Regulation (EC) No 1272/2008 of December 2008 amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals. Disponível em: <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:en:PDF>>.