

SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2
Creation Date: July 15, 2019
Revision Date: August 08, 2025

SECTION 1: Identification

1.1 GHS Product identifier

Product name Benzenesulfonic Acid

1.2 Other means of identification

Product number C4X-178316

Other names Benzenesulfonic Acid; Benzenesulfonic acid

1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F, Building B, No. 179 BASIGO, Guangpu Rd East, Huangpu Dist, Guangzhou

Telephone +86-20-81960175

1.5 Emergency phone number

Emergency phone number +86-20-81960175

Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Skin corrosion, Sub-category 1B

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
Response
P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316 Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage
P405 Store locked up.
Disposal
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Benzenesulfonic Acid	Benzenesulphonic acid	98-11-3	202-638-7	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Do NOT induce vomiting. Refer for medical attention.

4.2 Most important symptoms/effects, acute and delayed

SYMPTOMS: This material causes corrosion of tissues on contact. Coughing burning of eyes and nose and red sores may result.

ACUTE/CHRONIC HAZARDS: This chemical is a strong irritant and is corrosive to skin, eyes and mucous membranes. (NTP, 1992)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Absorption, Distribution and Excretion

Probably excreted as benzenesulfonic acid. from table

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

If material involved in fire: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Use dry chemical, dry sand, or carbon dioxide. Do not use water on material itself. If large quantities of combustible are involved, use water in flooding quantities as spray and fog.

5.2 Specific hazards arising from the chemical

Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)

5.3 Special protective actions for fire-fighters

Use water in large amounts, powder, alcohol-resistant foam, carbon dioxide.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: face shield, chemical protection suit and particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered plastic containers. Wash away remainder with plenty of water.

6.2 Environmental precautions

Personal protection: face shield, chemical protection suit and particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered plastic containers. Wash away remainder with plenty of water.

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Separated from oxidants, bases, metals and food and feedstuffs. Dry. Well closed. Ventilation along the floor.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation (not if powder), local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid. Paste.
Colour	Brownish.
Odour	no data available
Melting point/freezing point	28 °C. Remarks: +/- 1 °C.
Boiling point or initial boiling point and boiling range	188.2 °C. Remarks: +/- 1.0%.
Flammability	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	no data available
Flash point	Ca. 127 °C.
Auto-ignition temperature	> 467 °C. Atm. press.: Ca. 1 atm.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	kinematic viscosity (in mm ² /s) = Ca. 13.91. Temperature: 50.0 °C. Remarks: +/- 0.5%.
Solubility	5 to 10 mg/mL at 72° F (NTP, 1992)
Partition coefficient n-octanol/water	log Pow = -0.4. Temperature: 25 °C.
Vapour pressure	Ca. 16.7 Pa. Temperature: >= 20 °C.
Density and/or relative density	1.372.
Relative vapour density	(air = 1): 5.5
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes on heating. This produces toxic and corrosive fumes. The solution in water is a strong acid. It reacts violently with bases and is corrosive. Reacts violently with oxidants. Attacks many metals. This produces flammable/explosive gas (hydrogen - see ICSC 0001).

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

BENZENESULFONIC ACID reacts with bases and many organic compounds. (NTP, 1992)

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male/female) - ca. 1 410 mg/kg bw.
- Inhalation: LC50 - rat - $\geq$ 50 - ca. 100 mg.
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion.

STOT-repeated exposure

no data available

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly on spraying.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - *Leuciscus idus melanotus* - $>$ 500 mg/L - 96 h. Remarks: $>$ 325 mg/L based on active ingredient.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - $>$ 103 mg/L - 48 h.
- Toxicity to algae: EC50 - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - 70 mg/L - 72 h.
- Toxicity to microorganisms: EC10 - activated sludge of a predominantly domestic sewage - 240 mg/L - 3 h. Remarks: Respiration rate.

12.2 Persistence and degradability

Decomposition of benzenesulfonic acid took 16 days by a soil microflora inoculum in mineral salts medium(1). Sodium benzenesulfonate had a 5-day theoretical BOD (at 20 deg C) of 2.6, 74.5, and 38.8% in sewage seed, acclimated activated sludge seed, and by the Warburg technique with acclimated activated sludge, respectively(2). A biodegradation study using 100 mg/l benzenesulfonic acid, consumed 62, 58, and 344 ul oxygen in an endogenous control, benzenesulfonic acid adapted cells, and benzenesulfonic acid and phenol adapted cells, respectively, in 230 minutes(3). In a 2 week closed bottle study, with 100 mg/l benzenesulfonic acid and 30 mg/l sludge, benzenesulfonic acid gave a theoretical BOD of 87%(4). Benzenesulfonic acid utilized 10.7 mg of TOC/g of mixed liquor volatile suspended solids per hour in acclimated activated sludge, indicating that the activated sludge possessed the necessary catabolic enzymes required for degradation(5).

12.3 Bioaccumulative potential

Based upon an estimated a Log Kow of -2.25(1), the BCF of benzenesulfonic acid can be estimated to be approximately 1.15 from a regression-derived equation(2). This estimated BCF value suggests that bioconcentration of benzenesulfonic acid in aquatic organisms is not expected to be an important fate process(SRC).

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1, SRC), the Koc for benzenesulfonic acid can be estimated to be about 12(SRC). The Koc for benzenesulfonic acid can also be estimated to be about 1.4 based on an estimated log Kow of -2.25(3) and a regression derived equation(2). According to a suggested classification scheme(4), these estimated Koc values suggest that benzenesulfonic acid has very high soil mobility.

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN2583 (For reference only, please check.) IMDG: UN2583 (For reference only, please check.) IATA: UN2583 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: ALKYL SULPHONIC ACIDS, SOLID or ARYL SULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid (For reference only, please check.)
IMDG: ALKYL SULPHONIC ACIDS, SOLID or ARYL SULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid (For reference only, please check.)
IATA: ALKYL SULPHONIC ACIDS, SOLID or ARYL SULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.) IMDG: 8 (For reference only, please check.) IATA: 8 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: II (For reference only, please check.) IMDG: II (For reference only, please check.) IATA: II (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No IMDG: No IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Benzenesulphonic acid	Benzenesulphonic acid	98-11-3	202-638-7
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date July 15, 2019
Revision Date August 08, 2025

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%

- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Any questions regarding this SDS, Please send your inquiry to info@cato-chem.com

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