

Benzenesulfonyl Chloride

1. Identification

Product	Benzenesulfonyl Chloride
CAS / EC	98-09-9 / 202-636-6
Use	Moisture-sensitive sulfonyl chloride intermediate for organic synthesis and derivatization.
Uses advised against	Unassessed consumer, medical or other applications outside the qualified grade and intended use.
Supplier	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Contact	+86-21-54265599 sales@zxchem.com.cn www.zxchem.com
Emergency contact	+86-21-54265599; office hours, China time UTC+8. For an urgent incident, contact local emergency services.
Scope	Reference safety information for Benzenesulfonyl Chloride. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazard identification

Classification	Metal corrosion 1; oral acute toxicity 4; skin corrosion 1C; serious eye damage 1.
Signal word	Danger
Pictograms	GHS05, GHS07
Hazard statements	H290: May be corrosive to metals. H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage.
Prevention	P264: Wash exposed skin after handling. P280: Wear suitable protective gloves, clothing and eye protection. P270: Do not eat, drink or smoke when using this material. P234/P390: Use compatible original packaging; contain spills to limit material damage.
Response	Follow the exposure-specific first-aid measures in Section 4. Remove contaminated clothing. Seek urgent advice for severe symptoms.
Storage / disposal	Keep closed under the conditions in Section 7. Dispose through an authorized waste route under local rules.
Other hazards	Dust, splashes, process conditions and decomposition can create exposure risks not represented by the commercial assay.



3. Composition/information on ingredients

Benzenesulfonyl Chloride / component	98-09-9; EC 202-636-6
Supply concentration or grade	≥99.0%
Composition scope	Reference safety information covers the stated chemical identity and physical form. The commercial assay or grade limits are given in the TDS; the reference is not an impurity analysis or a delivered-batch certificate.

4. First-aid measures

Eye contact	Rinse eyes immediately with water for at least 15 minutes; remove contact lenses when easily possible and continue rinsing. Obtain urgent medical attention.
Inhalation	Move to fresh air without exposing rescuers. Seek medical attention for persistent or developing symptoms.
Skin contact	Remove contaminated clothing and rinse thoroughly with water. Obtain urgent medical care for burns or toxic exposure.
Ingestion	Rinse the mouth. Do not induce vomiting or give anything by mouth to an unconscious person. Obtain immediate poison-center or medical advice.
Symptoms	Harmful if swallowed; corrosive to skin and eyes.
Immediate treatment	Urgent medical assessment is required after serious exposure. Treat symptoms; rescuers must avoid secondary exposure.

5. Fire-fighting measures

Media / specific hazards	Use dry chemical, foam or carbon dioxide suitable for the surrounding fire. Water contact can hydrolyze the product and generate hydrogen chloride. Use water spray to cool exposed containers from a safe distance without entering the product.
Protection	Use full protective equipment and self-contained breathing apparatus. Fight from a safe position; contain contaminated firewater and cool exposed containers when safe.

6. Accidental release measures

Personal / environmental precautions	Restrict entry, avoid exposure and prevent environmental release. Use the controls and protection in Section 8.
Containment / cleanup	Exclude unprotected personnel, ventilate and contain the liquid. Use a compatible inert, noncombustible absorbent and transfer to labeled waste containers; prevent entry to drains. Exclude water from the collected material; hydrolysis can release hydrogen chloride.
References	See Sections 7, 8 and 13 for handling, protection and disposal.

7. Handling and storage

Handling	Avoid contact and inhalation; maintain ventilation and good hygiene. Use suitable equipment and prevent chemical contamination.
Storage	Keep tightly closed in a cool, dry, ventilated area; exclude water and moisture, and segregate incompatible bases and oxidizers.
Incompatibilities	Moisture-sensitive; hydrolysis releases acidic products including hydrogen chloride. Avoid water, alcohols, amines, bases and strong oxidizers unless used in a controlled reaction. Heating may release carbon, sulfur and chlorine-containing fumes.
Specific end use	Moisture-sensitive sulfonyl chloride intermediate for organic synthesis and derivatization.

8. Exposure controls/personal protection

Control parameters	No supply-specific occupational exposure limit or DNEL/PNEC is established by this record. Apply local substance and particulate exposure limits where relevant.
Engineering and personal protection	Use closed transfer or local extraction. Provide an eyewash and safety shower. Wear chemical-resistant gloves selected for the actual exposure, protective clothing and splash goggles. Add a face shield where splash exposure is possible. For airborne mist or vapor, use a suitable approved respirator selected through a workplace risk assessment; emergency or unknown atmospheres require independent air supply.
Hygiene / environmental control	Wash after handling; separate contaminated clothing. Contain product and process effluent; do not eat or drink in handling areas.

9. Physical and chemical properties

Physical state / appearance	Colorless to light yellow liquid
Formula / formula weight	C6H5ClO2S; 176.62 g/mol; component identity
Odor / odor threshold	No supply-grade value provided.
Boiling / decomposition point	No supply-grade limit provided.
Flammability / flash point	No supply-grade test value provided; see fire and reactivity information in Sections 5 and 10.
Vapor pressure / density	No supply-grade value provided.
Partition coefficient / autoignition	No supply-grade value provided.

10. Stability and reactivity

Reactivity / stability / reactions	Moisture-sensitive; hydrolysis releases acidic products including hydrogen chloride. Avoid water, alcohols, amines, bases and strong oxidizers unless used in a controlled reaction. Heating may release carbon, sulfur and chlorine-containing fumes.
Conditions and materials to avoid	Follow the incompatible-material and storage requirements in Section 7.
Decomposition products	See Section 5. No normal-storage decomposition is indicated under the recommended conditions.

11. Toxicological information

Routes / effects	Harmful if swallowed; corrosive to skin and eyes. Reference oral LD50 1,960 mg/kg, rat. Inhalation of vapor or hydrolysis products can irritate or burn the respiratory tract.
Other endpoints	Supply-batch sensitization, mutagenicity, carcinogenicity, reproduction and repeated-dose testing has not been provided. This does not override the classifications and target organs listed in Section 2.
Mixture assessment	Reference-substance or component results are not delivered-batch analytical or toxicological results.

12. Ecological information

Aquatic toxicity / behavior	Prevent discharge of the reactive liquid and acidic hydrolysis products. No batch-specific aquatic, degradation, bioaccumulation or mobility study is provided.
Other environmental endpoints	Supply-batch PBT/vPvB, endocrine-disruption, persistence, degradation, mobility and bioaccumulation assessments have not been provided. Do not infer absence of effects from missing data.

13. Disposal considerations

Product and residues	Characterize waste under applicable local rules and use a licensed waste contractor. Do not discharge chemical residues or contaminated process water to drains.
Contaminated packaging	Do not reuse contaminated packaging for unrelated purposes. Handle retained material with the same protection as the product and use an authorized disposal or return route.

14. Transport information

ADR / RID	UN 2225; BENZENESULPHONYL CHLORIDE; Class 8; packing group III
IMDG	UN 2225; BENZENESULPHONYL CHLORIDE; Class 8; packing group III
IATA	UN 2225; BENZENESULPHONYL CHLORIDE; Class 8; packing group III
Environmental hazards	No transport environmental-hazard designation in the matched reference.
Special precautions	Use authorized packaging, labels and trained personnel for the applicable mode. Quantity exemptions depend on the consignment and are not assumed.
Bulk transport	The packaged-product reference does not establish authorization for maritime bulk transport.
Scope	Transport entries apply to the reference identity, concentration and form described in Section 3. Changes in composition require reassessment.

15. Regulatory information

Classification framework	GHS/CLP reference classification is given for the material in Section 3. Local worker-protection, labeling, transport, environmental and end-use requirements apply.
Registration / use status	No supply-specific registration number, market authorization or end-use certification is established by this reference record.
Chemical safety assessment	No supply-formulation chemical safety assessment is supplied by ZXCHEM in this record.

16. Other information

Revision date	2026-10-13; initial ZXCHEM reference safety document, version 2026.1.
Abbreviations	ADR/RID: road/rail dangerous goods; IMDG: maritime dangerous goods; IATA: air dangerous goods; PG: packing group; LD50/LC50: median lethal dose/concentration; STOT: specific target organ toxicity.
Use of information	Use together with the grade TDS and a workplace assessment. Concentration, solvent, impurity or physical-form changes require applicable safety information.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

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