

Material Safety Data Sheet

Benzenesulfonyl chloride

ACC# 96061

Section 1 - Chemical Product and Company Identification

MSDS Name: Benzenesulfonyl chloride

Catalog Numbers: AC148470000, AC148470010, AC148472500, AC148480000, AC148480010, AC148480100 AC148480100, AC148482500

Synonyms: Benzene sulphonyl chloride; benzenesulfonic acid chloride.

Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
98-09-9	Benzenesulfonyl chloride	>96	202-636-6

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless, oily liquid.

Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. May be harmful if swallowed. Moisture sensitive.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns. May cause an allergic reaction in certain individuals.

Ingestion: Causes gastrointestinal tract burns. May cause perforation of the digestive tract. May be harmful if swallowed.

Inhalation: Causes chemical burns to the respiratory tract. May cause pulmonary edema and severe respiratory disturbances.

Chronic: Chronic exposure may cause liver damage.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use of water will produce irritating and toxic vapors of hydrogen chloride. Hydrochloric acid solutions react with most metals, forming flammable hydrogen gas.

Extinguishing Media: Do NOT get water inside containers. For large fires, use water spray, fog or alcohol-resistant foam. Most foams will react with the material and release corrosive/toxic gases. For small fires, use dry chemical, dry sand, alcohol-resistant foam.

Flash Point: 128 deg C (262.40 deg F)

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 1

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb the liquid and scrub the area with detergent and water. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Do not get water inside containers. Spill may be carefully neutralized with soda ash (sodium carbonate).

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not ingest or inhale. Use caution when opening. Can explode without warning when caps of old containers are unscrewed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Corrosives area. Water free area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Benzenesulfonyl chloride	none listed	none listed	none listed

OSHA Vacated PELs: Benzenesulfonyl chloride: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless, oily

Odor: pungent odor
pH: Not available.
Vapor Pressure: 0.68 mm Hg @ 25 deg C
Vapor Density: 6.1
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 251-252 deg C (dec)
Freezing/Melting Point: 14.5 deg C
Decomposition Temperature: 252 deg C
Solubility: Insoluble & stable in cold water
Specific Gravity/Density: 1.384
Molecular Formula: C₆H₅SO₂Cl
Molecular Weight: 176.62

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: High temperatures, contact with water.

Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, ammonia, dimethyl sulfoxide, aliphatic amines.

Hazardous Decomposition Products: Hydrogen chloride, chlorine, carbon monoxide, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 98-09-9: DB8750000

LD50/LC50:

CAS# 98-09-9:

Oral, mouse: LD50 = 828 mg/kg;

Oral, rabbit: LD50 = 828 mg/kg;

Oral, rat: LD50 = 1960 mg/kg;

Carcinogenicity:

CAS# 98-09-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series:

CAS# 98-09-9: waste number U020 (Corrosive waste, Reactive waste).

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	BENZENE SULFONYL CHLORIDE	BENZENESULPHONYL CHLORIDE
Hazard Class:	8	8
UN Number:	UN2225	UN2225
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 98-09-9 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 98-09-9: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 98-09-9: immediate, delayed, reactive.

Section 313 No chemicals are reportable under Section 313.**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 98-09-9 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

C

Risk Phrases:

R 22 Harmful if swallowed.

R 34 Causes burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 98-09-9: 1

Canada - DSL/NDSL

CAS# 98-09-9 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 98-09-9 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 5/20/1998

Revision #5 Date: 3/16/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.