

# SAFETY DATA SHEET

Creation Date 23-Sep-2008

Revision Date 18-Dec-2025

## Revision Number 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

<b>Product Name</b>	<b>Benzoyl chloride</b>
<b>Cat No. :</b>	<b>AC105750000; AC105750010; AC105750025; AC105750100</b>
<b>CAS No</b>	98-88-4
<b>Synonyms</b>	Benzoic acid, chloride; alpha-Chlorobenzaldehyde; Benzene carbonyl chloride
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	Food, drug, pesticide or biocidal product use.

## **Details of the supplier of the safety data sheet**

## Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

## Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024).

Flammable liquids	Category 4
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Corrosion/Irritation	Category 1
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	Category 3

## Label Elements

## Signal Word

Danger

**Hazard Statements**

Combustible liquid  
Harmful if swallowed  
Causes severe skin burns and eye damage  
May cause an allergic skin reaction  
May cause respiratory irritation  
Toxic in contact with skin or if inhaled

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area  
Do not breathe dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep cool

**Response**

Immediately call a POISON CENTER or doctor

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

**Skin**

Take off contaminated clothing and wash before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

If skin irritation or rash occurs: Get medical advice/attention

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

Rinse mouth

Do NOT induce vomiting

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Storage**

Store in a well-ventilated place. Keep container tightly closed

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200****Hazards resulting from a reaction with other chemicals under normal conditions of use**

Contact with water liberates toxic gas.

### 3. Composition/information on Ingredients

Component	CAS No	Weight %
Benzoyl chloride	98-88-4	>95

### 4. First-aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	Causes burns by all exposure routes. May cause allergic skin reaction. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use:.. Carbon dioxide (CO <sub>2</sub> ), Dry chemical, soda ash or lime. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	Do not use water or foam
<b>Flash Point</b>	93 °C / 199.4 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	600 °C / 1112 °F
<b>Explosion Limits</b>	
Upper	4.9 vol %
Lower	1.2 vol %
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Combustible material. Corrosive material. Water reactive. Contact with water liberates toxic gas. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Thermal decomposition can lead to release of irritating gases and vapors. Phosgene. Hydrogen chloride gas.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full

protective gear.

**NFPA**

Health	Flammability	Instability	Physical hazards
3	2	2	W

## 6. Accidental release measures

**Personal Precautions**

Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Remove all sources of ignition. Do not get in eyes, on skin, or on clothing.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Wear self-contained breathing apparatus and protective suit. Remove all sources of ignition. Do not expose spill to water. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

## 7. Handling and Storage

**Handling**

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Do not allow contact with water.

**Storage.**

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep away from heat, sparks and flame. Keep away from water or moist air. Store under an inert atmosphere. Incompatible Materials. Water. Strong oxidizing agents. Strong bases. Alcohols. Amines. Metals.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Benzoyl chloride	Ceiling: 0.5 ppm			Ceiling: 0.5 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

**Engineering Measures**

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment****Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

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.

**Recommended Filter type:**

Particulates filter conforming to EN 143. Acid gases filter. Type E. Yellow. conforming to EN14387.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance**

**Physical State** Liquid  
**Color** Colorless  
**Odor** pungent

**Odor Threshold** No information available

**Property**

**Melting Point/Range** -1 °C / 30.2 °F

**Softening Point** No data available

**Boiling Point/Range** 198 °C / 388.4 °F

**Flash Point**

93 °C / 199.4 °F

**Flammability (liquid)** Combustible liquid

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

**Explosion Limits**

**Lower** 2.5 vol%

**Upper** 27 vol%

600 °C / 1112 °F

**Autoignition Temperature**

**Decomposition Temperature**

**pH**

2

**Viscosity**

0.0012 Pa.s at 30 °C

**Water Solubility**

Reacts with water

**Solubility in other solvents**

No information available

**Partition Coefficient (n-octanol/water)**

0.5 hPa @ 20 °C

**Density / Specific Gravity**

1.210

**Bulk Density**

Not applicable

**Remarks****• Method**

**Method** - No information available

On basis of test data

Liquid

**Particle characteristics**

Not applicable (liquid)

**Other Information**

**Molecular Formula** C7 H5 Cl O

**Molecular Weight** 140.57

**Explosive Properties** explosive air/vapour mixtures possible

## 10. Stability and reactivity

**Reactive Hazard**

Yes

**Stability**

Water reactive. Air sensitive. Moisture sensitive.

**Conditions to Avoid**

Excess heat. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. Exposure to moist air or water.

**Incompatible Materials**

Water, Strong oxidizing agents, Strong bases, Alcohols, Amines, Metals

**Hazardous Decomposition Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Thermal decomposition can lead to release of irritating gases and vapors, Phosgene, Hydrogen chloride gas

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Hazardous Reactions**

Contact with water liberates toxic gas.

## 11. Toxicological information

**Information on expected route of exposure**

<b>Inhalation</b>	Vapor harmful. May produce an allergic reaction.
<b>Ingestion</b>	May cause allergic reaction. May be harmful if swallowed.
<b>Eyes</b>	Avoid contact with eyes. Eye contact may be fatal. Corrosive to the eyes and may cause severe damage including blindness. Lachrymator (substance which increases the flow of tears). Sensitization.
<b>Skin</b>	Avoid contact with skin. Causes burns. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

**Toxicology data for the components**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Benzoyl chloride	LD50 = 1920 mg/kg ( Rat )	LD50 = 1112 mg/kg ( Rabbit )	LC50 = 3.03 mg/L ( Rat ) 4 h

**Toxicologically Synergistic Products** No information available

**(b) skin corrosion/irritation;** Category 1 B

**(c) serious eye damage/irritation;** Category 1

**(d) respiratory or skin sensitization;**

Respiratory Based on available data, the classification criteria are not met  
Skin Category 1

May cause sensitization by skin contact

**(e) germ cell mutagenicity;** Based on available data, the classification criteria are not met

**(f) carcinogenicity;** Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Benzoyl chloride	98-88-4	Group 2A	Not listed	Not listed	X	Not listed

**(g) reproductive toxicity;** Based on available data, the classification criteria are not met

**(h) STOT-single exposure;** Based on available data, the classification criteria are not met

**(i) STOT-repeated exposure;** Based on available data, the classification criteria are not met

**Target Organs** None known.

**(j) aspiration hazard;** Based on available data, the classification criteria are not met

**Symptoms / effects,both acute and delayed** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Do not allow material to contaminate ground water system. Discharge to water will affect pH and harm aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Benzoyl chloride	Not listed	LC50: 28.5 - 45.3 mg/L, 96h static (Pimephales promelas)	EC50 = 10.4 mg/L 5 min EC50 = 11.7 mg/L 15 min EC50 = 12.2 mg/L 30 min	Not listed

**Persistence and Degradability** Decomposes in contact with water

**Bioaccumulation/ Accumulation** No information available.

**Mobility** No information available.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

**UN-No** UN1736  
**Proper Shipping Name** BENZOYL CHLORIDE  
**Hazard Class** 8  
**Packing Group** II

### TDG

**UN-No** UN1736  
**Proper Shipping Name** BENZOYL CHLORIDE  
**Hazard Class** 8  
**Packing Group** II

### IATA

**UN-No** UN1736  
**Proper Shipping Name** Benzoyl chloride  
**Hazard Class** 8  
**Packing Group** II

### IMDG/IMO

**UN-No** UN1736  
**Proper Shipping Name** Benzoyl chloride  
**Hazard Class** 8  
**Packing Group** II

## 15. Regulatory Information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Benzoyl chloride	98-88-4	X	ACTIVE	-

### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b) - Notices of Export** Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Benzoyl chloride	98-88-4	X	-	202-710-8	X	X	X	X	X	KE-02765

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Benzoyl chloride	98-88-4	>95	1.0 %	-

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Benzoyl chloride	X	1000 lb	-	-

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Benzoyl chloride	1000 lb	-	1000 lb 454 kg

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Benzoyl chloride	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland** This product does not contain any DHS chemicals.

**Security****Other International Regulations**

Mexico - Grade Slight risk, Grade 1

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Benzoyl chloride	98-88-4	-	Use restricted. See entry 75. (see link for restriction details)	-

**REACH links**<https://echa.europa.eu/substances-restricted-under-reach>**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Benzoyl chloride	98-88-4	Listed	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Benzoyl chloride	98-88-4	Not applicable	Not applicable	Not applicable	Not applicable

**16. Other Information****Prepared By**

Product stewardship (Regulatory Affairs)  
 Thermo Fisher Scientific  
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**Revision Summary**

Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,

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transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**