

Section 1. Product and Company Identification

**Product Name** Benzoyl Chloride  
**CAS Number** 98-88-4

**Parchem - fine & specialty chemicals**  
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Section 2. Hazards Identification

**Classification of the substance or mixture**  
**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 4), H227  
Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 4), H312  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Skin sensitization (Category 1), H317  
Acute aquatic toxicity (Category 3), H402

**GHS Label Elements**

**Pictograms:**



**Signal word:** Danger

**Hazard and precautionary statements**

**Hazard statements**

H227 Combustible liquid.  
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H402 Harmful to aquatic life.



### Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink, or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Hazards not otherwise classified (HNOC) or not covered by GHS

Lachrymator.

### Section 3. Composition / Information on Ingredients

**Common Name** Benzoyl Chloride  
**Formula** C<sub>7</sub>H<sub>5</sub>ClO  
**CAS Number** 98-88-4

COMPONENT	CAS NUMBER	CONCENTRATION
Benzoyl Chloride	98-88-4	≤ 100%

### Section 4. First Aid Measures

#### Description of First-aid Measures

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.



**Skin contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**Ingestion:** 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:** The most important known symptoms and effects are described in the labelling and/or in section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available

#### Section 5. Firefighting Measures

##### **Extinguishing media**

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

**Special hazards arising from the substance or mixture:** Carbon oxides, Hydrogen chloride gas. Container explosion may occur under fire conditions.

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

**Further information:** Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas. Use water spray to cool unopened containers.

#### Section 6. Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up:** Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

**Reference to other sections:** For disposal see section 13.

#### Section 7. Handling and Storage

**Precautions for safe handling:** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store under inert gas. Moisture sensitive.  
 Storage class (TRGS 510): Combustible, corrosive hazardous materials

Section 8. Exposure Controls / Personal Protection

**Control parameters**

**Components with workplace control parameters**

Component	CAS Number	Value	Control Parameters	Basis
Benzoyl Chloride	98-88-4	C	0.500000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract irritation Eye irritation Not classifiable as a human carcinogen		
		CEIL	5.000000 ppm	USA. Workplace Environmental Exposure Levels (WEEL)
		Skin Dermal Sensitization Notation		

**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 for eye protection 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 glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**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 multipurpose 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 environmental exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9. Physical and Chemical Properties

**Information on basic physical and chemical properties**

**Form:** Clear, liquid

**Color:** Colorless

**Odor:** Pungent

**Odor Threshold:** No data available

**pH:** 2 at 1 g/L

**Melting point/range:** -1 °C (30 °F)

**Initial boiling point and boiling range:** 198 °C (388 °F)

**Flash point (Closed Cup):** 72 °C (162 °F)

**Evaporation rate:** No data available

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits**

**Upper explosion limit:** 27% (V)

**Lower explosion limit:** 2.5% (V)

**Vapor pressure:** 1 hPa (1 mmHg) at 32 °C (90 °F)

**Vapor density:** 4.85 - (Air = 1.0)

**Relative density:** 1.211 g/mL at 25 °C (77 °F)

**Water solubility:** 2 g/L

**Partition coefficient (n-Octanol/Water):** No data available

**Auto-ignition temperature:** 600 °C (1,112 °F) at 1,013 hPa (760 mmHg) Auto-flammability

**Decomposition Temperature:** No data available

**Viscosity:** No data available

**Explosive properties:** No data available

**Oxidizing properties:** No data available

**Other safety information**

**Relative vapor density:** 4.85 - (Air = 1.0)

Section 10. Stability and Reactivity

**Reactivity:** No data available

**Chemical stability:** Stable under recommended storage conditions.

**Possibility of hazardous reactions:** No data available

**Conditions to avoid:** Exposure to moisture, heat, flames, or sparks.

**Incompatible materials:** Strong oxidizing agents, Strong bases, Alcohols

**Hazardous decomposition products**

**Other decomposition products:** No data available

In the event of fire: see section 5

Section 11. Toxicological Information

**Information on toxicological effects**

**Acute toxicity**

LD50 Oral - Rat - female - 1,900 mg/kg (OECD Test Guideline 401)

LD50 Oral - Rat - male - 3,619 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - Rat - 2 h - 1,870 mg/m<sup>3</sup>

LD50 Dermal - Rabbit - 790 mg/kg

**Skin corrosion/irritation**

Skin - Rabbit

Result: Severe skin irritation - 24 h

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Severe eye irritation

**Respiratory or skin sensitization**

Maximization Test (GPMT) - Guinea pig

May cause sensitization by skin contact. (OECD Test Guideline 406)

**Germ cell mutagenicity:** No data available

**Carcinogenicity:** This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

**IARC:** 2A - Group 2A: Probably carcinogenic to humans (Benzoyl chloride)

**NTP:** No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.

**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**

**RTECS:** DM6600000

spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Lachrymation, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12. Ecological Information

**Toxicity**

**Toxicity to fish**

LC50 - Pimephales promelas (fathead minnow) - 34.1 mg/L (96 h)

LC0 - Danio rerio (zebra fish) - 7.5 mg/l (96 h)

**Persistence and degradability**

Biodegradability aerobic - Exposure time 20 d

Result: 95 % - Readily biodegradable (Closed Bottle test)

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT (US)**

**UN number:** 1736

**Class:** 8

**Packing group:** II

**Proper shipping name:** Benzoyl chloride

**Reportable Quantity (RQ):** 1000 lbs

**Poison Inhalation Hazard:** No

**IMDG**

**UN number:** 1736

**Class:** 8

**Packing group:** II

**EMS-No:** F-A, S-B

**Proper shipping name:** Benzoyl Chloride

**IATA**

**UN number:** 1736

**Class:** 8

**Packing group:** II

**Proper shipping name:** Benzoyl chloride



Section 15. Regulatory Information

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** The following components are subject to reporting levels established by SARA Title III, Section 313:

Benzoyl chloride (CAS-No. 98-88-4)

Revision Date: 2011-07-01

**SARA 311/312 Hazards:** Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

Benzoyl chloride (CAS-No. 98-88-4)

Revision Date: 2011-07-01

**Pennsylvania Right To Know Components**

Benzoyl chloride (CAS-No. 98-88-4)

Revision Date: 2011-07-01

**New Jersey Right To Know Components**

Benzoyl chloride (CAS-No. 98-88-4)

Revision Date: 2011-07-01

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**HMIS Rating**

**Health:** 3\*

**Flammability:** 2

**Reactivity:** 1

**NFPA Rating**

**Health:** 3

**Flammability:** 2

**Reactivity:** 0

Section 16. Other Information

**Disclaimer:** 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.

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