

Safety data for benzoyl chloride

[Glossary](#) of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms: benzoic acid chloride, α -chlorobenzaldehyde, α -chlorobenzaldehyde, benzenecarbonyl chloride

Use: Synthetic reagent

Molecular formula: $\text{C}_6\text{H}_5\text{COCl}$

CAS No: 98-88-4

EC No: 202-710-8

Annex I Index No: 607-012-00-0

Physical data

Appearance: colourless or faintly yellow liquid with a penetrating odour

Melting point: $-1\text{ }^\circ\text{C}$

Boiling point: $197\text{ }^\circ\text{C}$

Vapour density: 4.88 (air = 1)

Vapour pressure: 1 mm Hg at $32\text{ }^\circ\text{C}$

Density (g cm^{-3}): 1.21

Flash point: $72\text{ }^\circ\text{C}$ (closed cup)

Explosion limits:

Autoignition temperature: $568\text{ }^\circ\text{C}$

Water solubility: decomposes

Stability

Stable. Combustible. Incompatible with strong oxidizing agents, water, alcohols, strong bases. Reacts violently with DMSO and vigorously with alkalis.

Toxicology

Poison. May be fatal if inhaled. Possible carcinogen. Harmful if swallowed. Corrosive - causes severe burns. Vapour is very

irritating. Experimental tumorigen by skin contact. Skin, eye and respiratory irritant. Lachrymator. Typical TLV/TWA 5 mg m⁻³

Toxicity data

(The meaning of any abbreviations which appear in this section is given [here.](#))

IHL-HMN TCLO 2 ppm/1m

ORL-RAT LDLO 1900 mg kg⁻¹

IHL-RAT LC50 1870 mg/m³/2h

Risk phrases

(The meaning of any risk phrases which appear in this section is given [here.](#))

R22 R23 R34 R36 R37 R38 R45. (Annex I gives only R34, but this probably underestimates the potential hazards.)

Transport information

(The meaning of any UN hazard codes which appear in this section is given [here.](#))

UN No 1736. Packing group II. Hazard class 8.

Personal protection

Safety glasses, good ventilation, gloves.

Safety phrases

(The meaning of any safety phrases which appear in this section is given [here.](#))

[Return to [Physical & Theoretical Chemistry Lab. Safety home page.](#)]

General Chemical Specifications:

Assay (C ₆ H ₅ COCl)	98.0-100.5%
Freezing Point	-2.0° to 0.0°C
MAXIMUM LIMITS	
Residue after Ignition	0.005%
Phosphorus Compounds (as P)	0.002%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%