



## MSDS of Benzoyl Chloride

### Part 1 Chemical Product and Company Identification

Name: benzoyl chloride

Company Name: Wuhan Biet Co., Ltd

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Used for: used in medicine, synthetic organic intermediates

### Part 2 Hazards Identification

Hazards Class : 8.1, corrosives

Routes of Entry: Ingestion, inhalation and skin contact

Health Effects: Corrosive to eyes, skin and mucous. Vapor inhaled causes cough, dyspnea, pulmonary edema, and death when inhaled severely. Cause nausea, vomiting, abdominal pain and pneumonia when ingested.

Environment Effects: Harmful to the environment.

Combustion Hazard: Inflammable, poisonous, strong corrosive and stimulated. May cause skin burns.

**Emergency overview:** flammable when meet flame and high combustible, in water or water vapor exothermic reaction and generate toxic corrosive gas.

**GHS risk category:** according to the classification of chemicals and the *general principles of the risk of the public* (GB-13690-2009) and chemical series standard of classification, the warning labels and warning instructions, this product belong to: skin corrosion/stimulus-1c, the harm of water environment-chronic, 2, respiration or skin allergy-sensitization 1

Label element:

Pictorial chart:



The warning word: dangerous



Dangerous information: cause serious skin burns and eye injuries; Toxic to aquatic organisms and has long-lasting effects; Inhalation may cause allergies or asthma symptoms or breathing difficulties.

### Part 3 Ingredients

Ingredients	Content:	CAS No.
Benzoyl chloride	≥99%	98-88-4

### Part 4 First-aid Measures

**Skin Contact:** Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes. Consult a physician.

**Eye Contact:** Immediately Flush Palpebral. Rinse thoroughly with plenty of water or NS for at least 15 minutes and consult a physician.

**Inhalation:** Move to fresh air instantly, keep respiration tract unobstructed. If not breathing well, give oxygen therapy. If breathing has stopped, give artificial respiration immediately. Consult a physician.

**Ingestion:** Rinse mouth with water. Give milk or albumen. Consult a physician.

### Part 5 Fire-fighting Measures

**Hazard Characteristics:** Flammable when meet fire or high fever. Produce exothermic reaction and poisonous corrosive gas when meet water or steam. Corrosive to many metal, especially in the wet air.

**Hazardous Combustion Products :** Carbon monoxide, carbon dioxide, hydrogen chloride, phosgene.

**Extinguishing Method:** Equipped firefighters with self-priming filter antitoxin fullface mask or isolation type respirator and whole body fire antiv irus clothing, outfire upwind. Move the containers to empty place from fire. Keep the containers cooling by water spray until the end of the fire. Evacuate quickly if the containers in fire is disco lor or make sound in relief safety feature.

**Suitable Extinguishing Media:** non-fusibility foam, dry power, carbon dioxide. DO NOT use water or foam.

### Part 6 Accidental Release Measures

Emergency Measures: Evacuate people from leakage contaminating area immediately and isolate them. Restrict unprotected personnel from the area. Cut off sources of ignition. The emergency handlers should wear self positive pressure type respirator and acid-proof alkali clothes. Do not



touch leakage directly. Cut off all the source of leakage as possible. Do not let product enter restrictive space like sewage or drains etc..

Small Spill:: Absorb with inert materials such as sandy soil, vermiculite etc..

Large Spill: Keep the leakage by constructing dike or to dig a pit. Transfer into tank car or special containers by pump, recycling or transporting to the waste disposal sites.

## Part 7 Handling and Storage

**Handling:** Handle in a closed situation container and keep well-ventilated local area. Handling should be mechanization, automation as far as possible. Operators must have received special training, and abide by the procedures strictly. Suggest the operators to wear self-priming filter antitoxin fullface mask, wear rubber acid-proof alkali clothes and gloves. Keep far away from the fire and heat source, and no smoking in workplace. Use explosion-proof type ventilation systems and equipment. Avoid to produce smoke. Prevent smoke and steam releasing into in the air of the workplace. Avoid contacting with oxidant, alkali, alcohol especially water. Handle in nitrogen. Handling should care, and to prevent damage to packaging and containers. Equip with corresponding variety and number of fire fighting equipment and spill contingency handling equipment. Empty containers may be harmful residues.

**Storage:** Store this conduct in a cool, dry, well ventilated warehouse. Keep far away from the fire and heat source. Maintain warehouse's temperature no more than 25 ° C and relative humidity not more than 75%. Keep the containers closed. The product should be stowed with the oxidizer, bases, alcohols, edible chemicals separately, avoid mixing storage. Equip with corresponding variety and number of fire fighting equipment .Spill contingency handling equipment and proper containers should be equipped in storage area. Extremely toxic substances should be strictly enforced with"five double" management system.

## Part 8 Exposure Control/ Personal Protection

OEL :

China MAC (mg/m<sup>3</sup>): not formulated

FSU MAC(mg/m<sup>3</sup>): Workshop health standard 5mg/m<sup>3</sup>

TLVTN: not formulated

TLVWN : ACGIH 0.5ppm,2.8mg/m<sup>3</sup>

Monitoring Method: gas chromatography

Engineering Controls: Handle in a closed situation container and keep well-ventilated local area. Be mechanization and automation as far as possible. Provide safety shower and eye wash equipment

Respiratory Protection: Wear self-priming filter antitoxin full-face mask if contact with the conduct's steam. Wear self-contained breathing apparatus as emergency rescue or evacuation.

Eye Protection: It has been protected in respiratory protection



Body Protection: Wear rubber acid-proof alkali clothes

Hand Protection: Wear rubber acid-proof alkali gloves

Other Protection: No smoking, no eating or drinking in workplace. Wash hands before eating, take showers and change clothes. Give the contaminated clothing a separate storage and wash before reuse. Keep a good health habit.

## Part 9 Physical and Chemical Properties

Primary Composition: benzoyl chloride

Appearance and Physical State: colorless, fuming, liquids

Ph:

Melting point(°C) : -0.5

Boiling point(°C) : 197

Relative Density(water=1) : 1.22

Relative Vapor Density(air=1) : 4.88

Saturated Vapour Pressure(kPa) : 0.13(32.1°C)

Heat of Combustion(kJ/mol) : 3272.1

Critical Temperature: Not available

Critical Pressure: Not available

Flash Point(°C) : 68

Ignition Temperature: Notavailable

UEL%(V/V) : 4.9

LEL%(V/V) : 1.2

Dissolubility: Soluble in ether, carbon disulfide

Main Application: intermediate for medicines, and organic synthesis.

## Part 10 Stability and Reactivity

Stability : Stable

Materials to avoid : Strong oxidizing agents, Strong bases, Alcohols, water

Conditions to avoid : Exposure to moisture.



Polymerization Harm: not available

Decomposition Products:

## Part 11 Toxicological Information

Acute Toxicity :

rat(Inhalation)-LD501870mg/m<sup>3</sup>-2h;

rat(oral)-LD503306mg/kg

mouse(skin)\_ 48mg/kg

rat(Inhalation)\_ LC50 31900 mg/m<sup>3</sup>-7h

**Acute Intoxication:** Drunken state as nausea, vomit, mild excited, gait hobbled etc for the light; Coma, convulsions, blood pressure drops as a result die of breathing and circulation failure for the serious.

**Chronic Intoxication:** Chronic Toxicity: neurasthenic syndrome; systematic changes: decreasing white blood cells and thrombocytopenia, aplastic anemia for serious; leukemia as minority after chronic poisoning (AML as common). skin lesion as de-fat, xerosis, rhagades, dermatitis. Increasing menstrual quantity and menostaxis

**Irritation:**Open stimulation test -Skin - rabbit - Severe skin irritation - 10mg/24 h

Skin - rabbit - Moderate skin irritation - 20mg/24 h

Open stimulation test -Eye - rabbit – Severe eye irritation - 50µg

Eye - rabbit – Severe eye irritation - 50µg /24 h

**Subacute and Chronic Toxicity:** Rabbit inhaled 10 caused a decrease in white cells and lymphocytes percentage relative increasing in several days to several weeks. Hematopoietic system of chronic poisoning animal has changed, and might cause bone marrow regeneration from malnutrition.

**Sensitization:** No information available

**Mutagenicity:** No information available

**Teratogenicity:** No information available.

## Part 12 Ecological Information

Ecological Toxicity:

Biodegradability:

Non- Biodegradability:

Bio-concentration and Bioaccumulative Potential:

Non- Biodegradability:

Bio-concentration and Bioaccumulative Potential:

Other Adverse Effects: This product is bad to the environment, is suggested not to run into environment.



## Part 13 Disposal

Waste Properties :

Method of Disposal: Read the relevant regulations of the state and local before disposal. Incinerating disposal is suggested. Burn after mixing with fuel. Remove the halogenating hydrogen from incinerator by the acid scrubber removed.

Notice: Prevent environmental pollution

## Part 14 Transport Information

DOC No.: 81121

UN No.: 1736

Packing Sign: corrosives



Packing Group: II

Packing Details: Pack product in acid-proof jars or ceramic bottles, then put the bottles into common or half check-decorated wooden cases

Pack product in glass bottles or plastic drums (jars), then put the bottles into common or half check-decorated wooden cases

Pack product in glass bottles with ground or whorled mouth, then put the bottles into common wooden cases.

Pack product in ampoule bottle, then put the bottles into common wooden cases.

Pack product in glass bottles with whorled mouth, glass bottles iron-covered mouth, or plastic bottles or drums, then put in into common wooden cases.

Notice: Strictly in accordance with Regulation of Dangerous Goods Transport strictly. Ensure intact package and safe loading before transporting; No leaking, no collapsing, no dropping, and no damaging during transporting. Supply the transporting vehicles with spill treatment emergency facilities. Keep away from sunlight, rain and heat. Drive in routine in highway transportation. Do not stay in residential area and densely populated area.

## Part 15 Regulatory Information

Regulatory information: The following laws, regulations, rules and standards, the safety of the chemical production, use, storage, transportation, loading and unloading, classification and making, packing, occupational hazards, etc for the corresponding regulation:

*Hazardous chemical materials safety management regulations*(the 591decree of the state council, on February 16, 2011, 144<sup>th</sup> executive meeting of the state council to revise, effective as of December 1,2011)

*List of dangerous chemicals* : not included

*List of highly toxic chemicals* : not included



The content of the chemical safety technical specifications and project order (GB/T16483-2008)  
Chemical classification, the series standard of warning labels and warning instructions (GB  
20576-2006 ~GB20602-2006)

## Part 16 Other Information

**State:** This MSDS according to the national standard "*the content of the chemical safety technical specifications and project order*" (GB/T 16483-2008) compiled; Catalogs of GHS, because at present the country has not yet promulgated chemicals chemicals in this SDS GHS classification is the enterprise according to the national standard of the *classification of chemicals and the general principles of the risk of the public* "(GB 13690-13690) and the chemical classification, warning label and warning that security specification series standard (GB 20576-20602-2006, not including GB 20600-20600) of classification, after waiting for the chemical catalogs of GHS issued to adjust again.

**Abbreviations state:**

MAC: refers to the work site, within one working day, anytime the concentration of toxic chemicals should not exceed.

PC - TWA: refers to the time for weight regulation 40 h, 8 h working day work week average permissible exposure concentration.

PC - STEL: refers to the comply with the PC - TWA premise that allow the concentration of short contact time (15 min).

The TLV - C: instantaneous also shall not exceed the limit. Is specialized on certain substances such as excitant gas or as prescribed by the material is given priority to with acute effects.

The TLV - TWA: refers to work 8 hours a day or work 40 hours a week of time weighted average concentration, lifelong work time under the concentration of repeated exposure to almost all workers from adverse effects.

The TLV - STEL: is the guarantee to comply with the TLV - TWA, allow workers to continuous contact with maximum concentration of 15 min. This concentration in each working day shall not exceed four times, and contact with two intervals of at least 60 min, it is a complement of the TLV - TWA.

**Disclaimer:** This MSDS for those who have appropriate professional training and use of the product related personnel to provide security to prevent data for this product. To get the MSDS of individual users, in the use of special conditions, the applicability of this MSDS must be independent judgment. In the use of special occasions, due to the use of this MSDS, as a result of damage, our company will not take any responsibility.