



# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 03/11/2013

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	801801
Product name	Benzophenone for synthesis

### Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   SDS Phone Support: +1-978-715-1335   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  e-mail: mm_sds@merckgroup.com
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Acute aquatic toxicity, Category 1, H400  
Chronic aquatic toxicity, Category 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

#### *Hazard pictograms*



*Signal Word*  
Warning

*Hazard Statements*  
H410 Very toxic to aquatic life with long lasting effects.

*Precautionary Statements*

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 801801  
Product name Benzophenone for synthesis

Version 1.0

P273 Avoid release to the environment.

## OSHA Hazards

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

## Other hazards

None known.

## SECTION 3. Composition/information on ingredients

Formula	$C_6H_5COC_6H_5$	$C_{13}H_{10}O$ (Hill)
CAS-No.	119-61-9	
Molar mass	182.22 g/mol	
Remarks	No hazardous ingredients according to the OSHA Hazard Communication Standard 29 CFR 1910.1200.	

## SECTION 4. First aid measures

### Description of first-aid measures

#### Inhalation

After inhalation: fresh air.

#### Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### Eye contact

After eye contact: rinse out with plenty of water.

#### Ingestion

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

### Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

### Indication of any immediate medical attention and special treatment needed

No information available.

## SECTION 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Combustible.

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 801801  
Product name Benzophenone for synthesis

---

Version 1.0

Vapors are heavier than air and may spread along floors.  
Forms explosive mixtures with air on intense heating.  
Development of hazardous combustion gases or vapors possible in the event of fire.

## Advice for firefighters

*Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

*Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Store at +15°C to +25°C (+59°F to +77°F).

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

Contains no substances with occupational exposure limit values.

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### *Hygiene measures*

Change contaminated clothing. Wash hands and face after working with substance.

### *Eye/face protection*

Safety glasses

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according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 801801  
Product name Benzophenone for synthesis

Version 1.0

## *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*Other protective equipment:*  
protective clothing

## *Respiratory protection*

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## SECTION 9. Physical and chemical properties

Physical state	crystals
Color	colorless
Odor	characteristic
Odor Threshold	No information available.
pH	No information available.
Melting point	47 - 49 °C
Boiling point/boiling range	579 - 583 °F ( 304 - 306 °C) at 1,013 hPa
Flash point	302 °F ( 150 °C) Method: DIN 51758
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	0.004 hPa at 68 °F ( 20 °C)  1.3 hPa at 226 °F ( 108 °C)
Relative vapor density	No information available.
Relative density	1.1 g/cm <sup>3</sup> at 77 °F ( 25 °C)

## MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	801801	Version 1.0
Product name	Benzophenone for synthesis	

---

Water solubility	0.14 g/l at 77 °F ( 25 °C)
Partition coefficient: n-octanol/water	log Pow: 3.18 (experimental) (Lit.) Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	> 608 °F ( > 320 °C)
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Bulk density	700 kg/m <sup>3</sup>

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### SECTION 10. Stability and reactivity

#### Reactivity

Forms explosive mixtures with air on intense heating.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

#### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

#### Conditions to avoid

Strong heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

#### Incompatible materials

no information available

#### Hazardous decomposition products

no information available

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### SECTION 11. Toxicological information

#### Information on toxicological effects

*Likely route of exposure*

Eye contact, Skin contact, Ingestion

*Acute oral toxicity*

LD50 rat: > 10,000 mg/kg (IUCLID)

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## MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 801801  
Product name Benzophenone for synthesis

---

Version 1.0

### *Acute dermal toxicity*

LD50 rabbit: 3,535 mg/kg  
(IUCLID)

### *Skin irritation*

rabbit  
Result: slight irritation  
(IUCLID)

### *Eye irritation*

rabbit  
Result: No eye irritation  
(External MSDS)

### *Sensitization*

Sensitization test: guinea pig  
Result: negative  
(IUCLID)

Sensitization possible in predisposed persons.

### *Genotoxicity in vitro*

Ames test  
Result: negative  
(External MSDS)

### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## **Further information**

Properties that cannot be excluded:  
Other dangerous properties can not be excluded.

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 801801  
Product name Benzophenone for synthesis

Version 1.0

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

LC50 Pimephales promelas (fathead minnow): 10.9 mg/l; 96 h (ECOTOX Database)

#### *Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 0.27 mg/l; 24 h (ECOTOX Database)

### Persistence and degradability

#### *Biodegradability*

0 %; 14 d

OECD Test Guideline 301C

Not readily biodegradable.

### Bioaccumulative potential

#### *Partition coefficient: n-octanol/water*

log Pow: 3.18

(experimental)

(Lit.) Bioaccumulation is not expected (log Pow <1).

### Mobility in soil

#### *Distribution among environmental compartments*

log Koc: 2.7

(External MSDS) Mobility of the substance in soil is expected (log koc <3).

### Other adverse effects

#### *Additional ecological information*

Discharge into the environment must be avoided.

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ( BENZOPHENONE)
Class	9
Packing group	III
Environmentally hazardous	--

### Air transport (IATA)

# MATERIAL SAFETY DATA SHEET

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Product number	801801	Version 1.0
Product name	Benzophenone for synthesis	

---

UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ( BENZOPHENONE)
Class	9
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

## Sea transport (IMDG)

UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ( BENZOPHENONE)
Class	9
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-F

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## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

No OSHA Hazards

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

No SARA Hazards

#### SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.



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according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

801801

Version 1.0

Product name

Benzophenone for synthesis

## SARA 302

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

## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Not listed

## TSCA 12b

### *Ingredients*

Benzophenone derivatives

119-61-9

## Massachusetts Right To Know

### Remarks

No components are subject to the Massachusetts Right to Know Act.

## Pennsylvania Right To Know

### *Ingredients*

Benzophenone derivatives

## New Jersey Right To Know

### *Ingredients*

Benzophenone derivatives

## Notification status

TSCA:

On TSCA Inventory

DSL:

All components of this product are on the Canadian DSL.

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Full text of H-Statements referred to under sections 2 and 3.

H400

Very toxic to aquatic life.

H410

Very toxic to aquatic life with long lasting effects.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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---

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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