

Safety data sheet

Safe Work Australia - Code of Practice



Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: **9709**
Version: **GHS 3.0 en**
Replaces version of: 2018-09-06
Version: (GHS 2)

date of compilation: 2017-02-01
Revision: 2019-04-29

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Identification of the substance	Benzophenone
Article number	9709
Registration number (REACH)	It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a)
EC number	204-337-6
CAS number	119-61-9

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

Identified uses: laboratory chemical
laboratory and analytical use

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

e-mail (competent person) : sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Safety data sheet

Safe Work Australia - Code of Practice



Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.1D	acute toxicity (dermal)	(Acute Tox. 5)	H313
3.9	specific target organ toxicity - repeated exposure	(STOT RE 2)	H373
4.1C	hazardous to the aquatic environment - chronic hazard	(Aquatic Chronic 3)	H412

2.2 Label elements

Labelling GHS

Signal word

Warning

Pictograms

GHS08



Hazard statements

H313 May be harmful in contact with skin
H373 May cause damage to organs (liver, kidney) through prolonged or repeated exposure (if swallowed)
H412 Harmful to aquatic life with long lasting effects

Precautionary statements

Precautionary statements - prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.

Precautionary statements - response

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant.

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Warning**

Symbol(s)



H313 May be harmful in contact with skin.
H412 Harmful to aquatic life with long lasting effects.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P501 Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

There is no additional information.

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: **9709**

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Diphenyl ketone
EC number	204-337-6
CAS number	119-61-9
Molecular formula	C ₁₃ H ₁₀ O
Molar mass	182.2 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, Liver and kidney damage

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

5.2 Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

Vapours are heavier than air. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Do not allow firefighting water to enter drains or water courses.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Do not breathe dust. Avoid contact with skin and eyes. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe dust. Provide adequate ventilation.

• Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

Consideration of other advice

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

Relevant DNELs/DMELs/PNECs and other threshold levels

- **human health values**

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0.7 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	0.1 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

- **environmental values**

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	0.02 mg/l	freshwater	short-term (single instance)
PNEC	0.002 mg/l	marine water	short-term (single instance)
PNEC	3.16 mg/l	sewage treatment plant (STP)	short-term (single instance)
PNEC	1.1 mg/kg	freshwater sediment	short-term (single instance)
PNEC	0.11 mg/kg	marine sediment	short-term (single instance)
PNEC	0.31 mg/kg	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

• type of material

NBR (Nitrile rubber)

• material thickness

>0,11 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	solid (crystalline)
Colour	white
Odour	characteristic
Odour threshold	No data available

Other physical and chemical parameters

pH (value)	This information is not available.
Melting point/freezing point	47 – 49 °C
Initial boiling point and boiling range	304 – 306 °C
Flash point	150 °C at 1,013 hPa
Evaporation rate	no data available
Flammability (solid, gas)	These information are not available
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	these information are not available
Vapour pressure	<0.01 hPa at 25 °C

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

Density	1.1 g/cm ³ at 20 °C
Vapour density	This information is not available.
Bulk density	~ 700 kg/m ³
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	<0.2 g/l at 25 °C
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	3.18
Soil organic carbon/water (log KOC)	2.634 (ECHA)
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not relevant (solid matter)
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

In case of warming: Vapours can form explosive mixtures with air. Dust explosibility.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Exposure route	Endpoint	Value	Species	Source
dermal	LD50	3,535 mg/kg	rabbit	ECHA
oral	LD50	>10,000 mg/kg	rat	TOXNET

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

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

Shall not be classified as a specific target organ toxicant (single exposure).

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

May cause damage to organs (liver, kidney) through prolonged or repeated exposure (if swallowed).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**

Liver and kidney damage

- **If in eyes**

causes slight to moderate irritation

- **If inhaled**

Inhalation of dust may cause irritation of the respiratory system

- **If on skin**

Frequently or prolonged contact with skin may cause dermal irritation

Other information

None

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	14.2 mg/l	fathead minnow (Pimephales promelas)	ECHA	96 h
EC50	6.784 mg/l	daphnia magna	ECHA	48 h
ErC50	3.5 mg/l	algae	ECHA	72 h

Aquatic toxicity (chronic)

May cause long-term adverse effects in the aquatic environment.

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

Endpoint	Value	Species	Source	Exposure time
LC50	6.65 mg/l	fish	ECHA	7 d
EC50	1.1 mg/l	aquatic invertebrates	ECHA	21 d
NOEC	0.2 mg/l	aquatic invertebrates	ECHA	21 d
LOEC	9.24 mg/l	fish	ECHA	7 d

12.2 Process of degradability

The substance is readily biodegradable.
 Theoretical Oxygen Demand: 2.634 mg/mg
 Theoretical Carbon Dioxide: 3.14 mg/mg

Process	Degradation rate	Time
biotic/abiotic	0 %	14 d
oxygen depletion	66 - 84 %	28 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)

3.18

BCF

3.4 - 9.2 (ECHA)

12.4 Mobility in soil

Henry's law constant

0.197 Pa m³/mol at 25 °C

The Organic Carbon normalised adsorption coefficient

2.634

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Slightly hazardous to water. Avoid release to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

- 14.1** UN number (not subject to transport regulations)
- 14.2** UN proper shipping name not relevant
- 14.3** Transport hazard class(es) not relevant
- Class -
- 14.4** Packing group not relevant not assigned to a packing group
- 14.5** Environmental hazards none (non-environmentally hazardous acc. to the dangerous goods regulations)
- 14.6** Special precautions for user
There is no additional information.
- 14.7** Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk.
- 14.8** Information for each of the UN Model Regulations
- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**
Not subject to ADR, RID and ADN.
 - **International Maritime Dangerous Goods Code (IMDG)**
Not subject to IMDG.
 - **International Civil Aviation Organization (ICAO-IATA/DGR)**
Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed

Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

Country	National inventories	Status
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")

Safety data sheet

Safe Work Australia - Code of Practice



Benzophenone ROTI®CALIPURE Melting point standard 47-49 °C

article number: 9709

Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H313	may be harmful in contact with skin
H373	may cause damage to organs (liver, kidney) through prolonged or repeated exposure (if swallowed)
H412	harmful to aquatic life with long lasting effects

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.