

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 25.05.2023

Version: 3.0

Product: **2-Hydroxyacetophenone**

(ID no. 30112080/SDS_GEN_00/EN)

Date of print 21.05.2024

1. Identification

Product identifier

2-Hydroxyacetophenone

Chemical name: 2'-Hydroxyacetophenone

CAS Number: 118-93-4

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

Relevant identified uses: Chemical

Recommended use: industrial chemicals, pharmaceutical excipient, Intermediate

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

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International emergency number:

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2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

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Acute Tox. 5 (oral)

Aquatic Acute 3

For the classifications not written out in full in this section the full text can be found in section 16.

Label elementsGlobally Harmonized System (GHS)

Signal Word:

Warning

Hazard Statement:

H303 May be harmful if swallowed.

H402 Harmful to aquatic life.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.

Precautionary Statements (Response):

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

Precautionary Statements (Disposal):

P501 Dispose of contents and container to hazardous or special waste collection point.

Other hazardsAccording to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients**Substances**Chemical nature

2'-Hydroxyacetophenone

CAS Number: 118-93-4

EC-Number: 204-288-0

Hazardous ingredients (GHS)

According to UN GHS criteria

2'-Hydroxyacetophenone

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	Content (W/W): $\geq 75\%$ - $\leq 100\%$	Acute Tox. 5 (oral) Aquatic Acute 3 H303, H402
	CAS Number: 118-93-4	
	EC-Number: 204-288-0	
Phenol		
	Content (W/W): $> 0\%$ - $< 0,3\%$	Acute Tox. 3 (oral) Acute Tox. 3 (Inhalation - mist) Acute Tox. 3 (dermal) Skin Corr./Irrit. 1B Eye Dam./Irrit. 1 Muta. 2 STOT RE 2 Aquatic Acute 2 Aquatic Chronic 2 H373, H341, H314, H301 + H311 + H331, H401, H411
	CAS Number: 108-95-2	
	EC-Number: 203-632-7	
	INDEX-Number: 604-001-00-2	
		<u>Specific concentration limit:</u> Skin Corr./Irrit. 1B: $\geq 3\%$ Skin Corr./Irrit. 2: $1 - < 3\%$ Eye Dam./Irrit. 2: $1 - < 3\%$

For the classifications not written out in full in this section the full text can be found in section 16.

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

If inhaled:

Keep patient calm, remove to fresh air.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

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5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, dry powder, foam, carbon dioxide

Special hazards arising from the substance or mixture

carbon oxides, harmful vapours

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Cool endangered containers with water-spray.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Contain with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

Take precautionary measures against static discharges. Avoid all sources of ignition: heat, sparks, open flame.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed. Protect contents from the effects of light.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

| 108-95-2: Phenol

Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):

butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	liquid
Colour:	straw yellow
Odour:	No data available.
Odour threshold:	No data available.
pH value:	insoluble

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melting range:	18 - 20 °C (1.013,25 hPa)	(other)
Boiling range:	222 - 238 °C (1.013,25 hPa)	(measured)
Flash point:	106 °C Literature data.	(other, closed cup)
Evaporation rate:	approx. 0,02 (20 °C) Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	hardly combustible	(derived from flash point)
Lower explosion limit:	0,98 %(V)	
Upper explosion limit:	11,8 %(V)	
Ignition temperature:		
Vapour pressure:	not determined 0,04 - 0,1 hPa (20 °C) dynamic	(measured)
Density:	1,131 g/cm ³ (20 °C)	
Relative vapour density (air):	4,69 (20 °C) Heavier than air.	(calculated)
Solubility in water:		(other)
	6,8075 g/l (29,85 °C)	
Partitioning coefficient n-octanol/water (log Kow):	1,97 (25 °C)	(calculated)
Self ignition:	not self-igniting	Test type: Spontaneous self- ignition at room-temperature.
Thermal decomposition:	No data available.	
Viscosity, dynamic:	0,701 mPa.s	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	not fire-propagating	

Other information

Self heating ability:	not applicable, the product is a liquid	
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.	
pK _A :	10,06 (20 °C)	(other)
Adsorption/water - soil:	KOC: 67,95; log KOC: 1,83 Adsorption to solid soil phase is not expected.	(calculated)
Surface tension:	29,2 mN/m (131 °C)	
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.	
Molar mass:	136,15 g/mol	

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10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	Corrosive effects to metal are not anticipated.
Formation of flammable gases:	Remarks: Forms no flammable gases in the presence of water.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
No data available.

Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion. Inhalation-risk test (IRT): No mortality within 7 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard. Virtually nontoxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral): 2.700 mg/kg (BASF-Test)

rat (by inhalation): 7 h (IRT)

Inhalation-risk test (IRT): No mortality within 7 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard.

LD50 rabbit (dermal): > 2.000 mg/kg (similar to OECD guideline 402)

No mortality was observed.

Irritation

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Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (similar to OECD guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria.

Carcinogenicity

Assessment of carcinogenicity:

No data available concerning carcinogenic effects.

Reproductive toxicity

Assessment of reproduction toxicity:

No data available.

Developmental toxicity

Assessment of teratogenicity:

No data available.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

No reliable data was available concerning repeated dose toxicity.

Aspiration hazard

No aspiration hazard expected.

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12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:

LC50 (96 h) 115 mg/l, *Lepomis macrochirus* (APHA 1971, static)

Nominal concentration.

as prescribed by 1.1 - 1.4

Aquatic invertebrates:

EC50 (48 h) 57 mg/l, *Daphnia magna* (other, static)

Nominal concentration.

as prescribed by 1.1 - 1.4

Aquatic plants:

EC50 (120 h) > 100 mg/l, *Selenastrum capricornutum* (Algal growth inhibition test, static)

The details of the toxic effect relate to the nominal concentration.

as prescribed by 1.1 - 1.4

EC10 (120 h) 36,6 mg/l, *Selenastrum capricornutum* (Growth Inhibition Test, static)

The details of the toxic effect relate to the nominal concentration.

as prescribed by 1.1 - 1.4

Microorganisms/Effect on activated sludge:

EC50 (24 h) 113 mg/l, *Tetrahymena pyriformis* (Screening test)

The details of the toxic effect relate to the nominal concentration.

Chronic toxicity to fish:

No data available.

Chronic toxicity to aquatic invertebrates:

No data available.

Assessment of terrestrial toxicity:

No data available.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Elimination information:

approx. 90 % CO₂ formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic, non-adapted) Readily biodegradable (according to OECD criteria).

as prescribed by 1.1 - 1.4

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):

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According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Assessment bioaccumulation potential:

No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is not expected.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. The local regulations on waste-water treatment must be followed.

13. Disposal Considerations

Waste treatment methods

Observe national and local legal requirements.

Contaminated packaging:

Uncleaned empties should be disposed of in the same manner as the contents.

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport

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ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport**ADN**

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport**IMDG**

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

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IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Muta.	Germ cell mutagenicity
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H303	May be harmful if swallowed.
H402	Harmful to aquatic life.
H373	May cause damage to organs through prolonged or repeated exposure.
H341	Suspected of causing genetic defects.
H314	Causes severe skin burns and eye damage.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the

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responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.