



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 20.01.2021

Version number 1

Revision: 20.01.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Product name: 4-Phenyl-3-butene-2-one****Part number:** DRE-C16056700**CAS Number:**

122-57-6

EC number:

204-555-1

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

No further relevant information available.

Application of the substance / the mixture Reference material for laboratory use only**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

LGC Limited

Queens Road

Teddington

Middlesex TW11 0LY

UNITED KINGDOM

Tel : +44 (0) 20 8943 7000

Fax : +44 (0) 20 8943 2767

eMail : gb@lgcstandards.comWeb : www.lgcstandards.com**Further information obtainable from:**

Product safety department

eMail : sds-request@lgcgroup.com**1.4 Emergency telephone number:**

For Hazardous Materials or Dangerous Goods Incident

Spill, Leak, Fire Exposure, or Accident

Call CHEMTREC:

USA & Canada 1-800-424-9300

Rest of the world +1 703-741-5970

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

(Contd. on page 2)

GB



Safety data sheet

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Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 1)

· 2.2 Label elements**· Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· Hazard pictograms

GHS07 GHS09

· Signal word Warning**· Hazard statements**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves.

P321 Specific treatment (see on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards**· Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients**· 3.1 Chemical characterisation: Substances****· CAS No. Description**

122-57-6 4-Phenyl-3-buten-2-one

· Identification number(s) None**· EC number: 204-555-1****· RTECS: EN 0330000**

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**· 4.1 Description of first aid measures****· After inhalation:**

Supply fresh air and call a doctor.

In case of unconsciousness place patient in recovery position for transport.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)



Safety data sheet

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Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 2)

If skin irritation continues, consult a doctor.

- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Rinse mouth. Do not induce vomiting.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

GB

(Contd. on page 4)



Safety data sheet

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Printing date 20.01.2021

Version number 1

Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 3)

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
 - **Additional information about design of technical facilities:** No further data; see item 7.
 - **Ingredients with limit values that require monitoring at the workplace:** Not required.
 - **Additional information:** Lists used were valid at the time of SDS preparation.
- **8.2 Exposure controls**
 - **Personal protective equipment:**
 - **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Avoid contact with the skin.
 - Avoid contact with the eyes and skin.
 - **Respiratory protection:**
 - Not required.
 - Use suitable respiratory protective device in case of insufficient ventilation.
 - **Protection of hands:**
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
 - The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

- **Material of gloves** Nitrile rubber, NBR
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
 - **General Information**
 - **Appearance:**
 - Form:** Crystalline
 - Colour:** Yellowish
 - **Odour:** Characteristic
 - **Odour threshold:** Not determined.
 - **pH-value:** Not applicable.

(Contd. on page 5)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.01.2021

Version number 1

Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 4)

· Change in condition Melting point/freezing point:	37-40 °C
Initial boiling point and boiling range:	261 °C
· Flash point:	116 °C
· Flammability (solid, gas):	Not determined.
· Ignition temperature:	370 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Not determined.
· Explosive properties:	Not determined.
· Explosion limits: Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density at 20 °C:	1.003 g/cm ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water at 25 °C:	Chloroform (Slightly), Methanol (Slightly) 0.0134 g/l
· Partition coefficient: n-octanol/water:	2.07 Log P
· Viscosity: Dynamic:	Not applicable.
Kinematic:	Not applicable.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
Stable under normal conditions.
No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Heat.
- **10.5 Incompatible materials:** Strong oxidizing agents.
- **10.6 Hazardous decomposition products:**
Carbon monoxide
Carbon dioxide

(Contd. on page 6)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.01.2021

Version number 1

Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 5)

Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

Oral	LD50	2,031 mg/kg (rat)
Dermal	LD50	>3,000 mg/kg (rabbit)
	LD 50 (Intraperitoneal)	1,210 mg/kg (mouse)
	LD 50 (Intravenous)	112 mg/kg (mouse)

· **Primary irritant effect:**

· **Skin corrosion/irritation**

Causes skin irritation.

· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

· **Respiratory or skin sensitisation**

May cause an allergic skin reaction.

· **Additional toxicological information:**

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** Based on available data, the classification criteria are not met.

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT-single exposure** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

EC50/48 h	15 mg/l (daphnia)
EC50/72h	0.553 mg/l (Algae)
LC50/96 h	5.7 mg/l (fish)

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Very toxic for fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product to reach ground water, water course or sewage system.

Also poisonous for fish and plankton in water bodies.

(Contd. on page 7)



Safety data sheet

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Version number 1

Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 6)

- Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
 - **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
- **Uncleaned packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
UN3077
- **ADR, IMDG, IATA**
3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-Phenyl-3-buten-2-one)
- **ADR**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-Phenyl-3-buten-2-one), MARINE POLLUTANT
- **IMDG**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-Phenyl-3-buten-2-one)
- **IATA**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-Phenyl-3-buten-2-one)
- **14.3 Transport hazard class(es)**
- **ADR, IMDG, IATA**

- **Class**
9 Miscellaneous dangerous substances and articles.
- **Label**
9
- **14.4 Packing group**
III
- **ADR, IMDG, IATA**
III
- **14.5 Environmental hazards:**
- **Marine pollutant:** Symbol (fish and tree)
- **Special marking (ADR):** Symbol (fish and tree)
- **Special marking (IATA):** Symbol (fish and tree)

(Contd. on page 8)



Safety data sheet

according to 1907/2006/EC, Article 31

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Version number 1

Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 7)

· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Hazard identification number (Kemler code):	90
· EMS Number:	F-A,S-F
· Stowage Category	A
· Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· Transport category	3
· Tunnel restriction code	-
· UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-PHENYL-3-BUTEN-2-ONE), 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category E1** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this

(Contd. on page 9)



Safety data sheet

according to 1907/2006/EC, Article 31

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Version number 1

Revision: 20.01.2021

Product name: 4-Phenyl-3-butene-2-one

(Contd. from page 8)

information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· Sources

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

· Data compared to the previous version altered. All sections have been updated.

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