Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 01.10.2026 Version number 3.00 (replaces version 2.00) Revision: 01.10.2026

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

· **Product identifier**

· **Trade name: Camphor, racemic, exipient**

· **Article number:** 29
· **CAS Number:**
76-22-2
· **EC number:**
200-945-0
· **Registration number** The substance is exempt from REACH-registration.
· **Relevant identified uses of the substance or mixture and uses advised against**
· **Application of the substance / the mixture** Ingredient for pharmaceutical drugs
· **Uses advised against** No relevant information available.

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
CAELO
Caesar & Loretz GmbH
Herderstr. 31
D-40721 Hilden
GERMANY

· **Further information obtainable from:**
E-mail: info@caelo.de
Tel.: +49210349940 (during regular opening hours)
· **Emergency telephone number:**
Poison Information Center Bonn
Venusberg-Campus 1, 53127 Bonn
Tel: +49 (0) 228-192400

2 Hazards identification

· **Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
Flam. Sol. 2 H228 Flammable solid.
Acute Tox. 4 H332 Harmful if inhaled.
STOT SE 2 H371 May cause damage to organs.

· **Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Warning
· **Hazard statements**
H228 Flammable solid.
H332 Harmful if inhaled.
H371 May cause damage to organs.
· **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable
· **Determination of endocrine-disrupting properties** Not applicable.

3 Composition/information on ingredients

· **Substances**
· **CAS No. Description**
CAS: 76-22-2 Bornan-2-on
· **Identification number(s)**
· **EC number:** 200-945-0

4 First aid measures

· **Description of first aid measures**
· **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Seek medical advice, even if no immediate symptoms are observed.
· **After swallowing:** If symptoms persist consult doctor.

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· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures
· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Firmly waterspray
· **Special hazards arising from the substance or mixture**
Combustible but not oxidising. In case of fire dangerous vapours/gases can be generated: Smoke gases.
Can form explosive gas-air mixtures.
· **Advice for firefighters**
· **Protective equipment:** In case of fire wear suitable protective clothes and respiratory protection.
· **Additional information**
Prevent from entering into drains. Fire residues must be disposed in accordance with official regulations.

6 Accidental release measures
· **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Avoid contact with the substance.
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Take up dry. Clean up with water.
Dispose contaminated material as waste according to section 13.
· **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.

7 Handling and storage
· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Tightly closed. Store at a dry place. At room temperature (+15°C to +25°C).
· **Information about storage in one common storage facility:** Not required
· **Further information about storage conditions:** Store receptacle in a well ventilated area.
· **Storage class:** TRHS 510: 4.1 B Flammable solids or desensitizing explosive substances
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

· **Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
CAS: 76-22-2 Bornan-2-on
OEL Short-term value: 18 mg/m³, 3 ppm
Long-term value: 12 mg/m³, 2 ppm
· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
· **Respiratory protection:** Dust protection mask.
· **Hand protection** Protective gloves
· **Material of gloves**
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **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.
· **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber/nitrile latex.
· **Eye/face protection** Tightly sealed goggles
· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**

· **Physical state**	Solid
· **Colour:**	Not determined
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined
· **Melting point/freezing point:**	178 °C
· **Boiling point or initial boiling point and boiling range**	204 °C
· **Flammability**	Product is not flammable.
· **Lower and upper explosion limit**	
· **Lower:**	0.6 Vol %
· **Upper:**	3.5 Vol %
· **Flash point:**	65 °C
· **Auto-ignition temperature:**	460 °C
· **Decomposition temperature:**	Not determined
· **pH**	Not applicable

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· **Viscosity:**	
· **Kinematic viscosity**	Not applicable
· **Dynamic:**	Not applicable
· **Solubility**	
· **water at 20 °C:**	1 g/l
· **Partition coefficient n-octanol/water (log value)**	Not determined
· **Vapour pressure at 25 °C:**	0.87 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	0.99 g/cm³
· **Relative density**	Not determined
· **Vapour density**	Not applicable
· **Particle characteristics**	Not determined
· **Other information**	
· **Appearance:**	
· **Form:**	Solid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Not determined
· **Explosive properties:**	Not determined
· **Change in condition**	
· **Evaporation rate**	Not applicable.
· **Information with regard to physical hazard classes**	
· **Explosives**	Void
	Void
· **Flammable gases**	Void
	Void
· **Aerosols**	Void
	Void
· **Oxidising gases**	Void
	Void
· **Gases under pressure**	Void
	Void
· **Flammable liquids**	Void
	Void
· **Flammable solids**	Flammable solid.
	Void
· **Self-reactive substances and mixtures**	Void
	Void
· **Pyrophoric liquids**	Void
	Void
· **Pyrophoric solids**	Void
	Void
· **Self-heating substances and mixtures**	Void
	Void

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· **Substances and mixtures, which emit flammable gases in contact with water**	Void Void
· **Oxidising liquids**	Void Void
· **Oxidising solids**	Void Void
· **Organic peroxides**	Void Void
· **Corrosive to metals**	Void Void
· **Desensitised explosives**	Void Void

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:**
Strong oxidizing agents
Acids
Alkalis
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Harmful if inhaled.
· **LD/LC50 values relevant for classification:**
Oral LD50 1,310 mg/kg (mouse)
5,000 mg/kg (rat)
· **Primary irritant effect:**
· **Skin corrosion/irritation**
Irritant.
Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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** May cause damage to organs.
· **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.

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· **Information on other hazards**
· **Endocrine disrupting properties**
On the basis of the available data, the substance does not meet the criteria for the identification of substances having properties of interference with the endocrine system, in accordance with Article 59, paragraph 1 of the REACH Regulation and the criteria established in the Delegated Regulation (EU) 2017 / 2100 of the Commission or in Commission Regulation (EU) 2018/605.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:**
LC50 36 mg/L /96h (fish: danio rerio)
· **Persistence and degradability** Easily biodegradable
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable
· **Endocrine disrupting properties**
Based on the available data, the substance does not meet the criteria for the identification of substances with properties affecting the endocrine system according to Article 59(1) of the REACH Regulation and the criteria of the Commission Delegated Regulation (EU) 2017/2100 or in the Commission Regulation (EU) 2018/605.
The product does not contain substances with endocrine disrupting properties.
· **Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to local regulations.

14 Transport information

· **UN number or ID number**
· **ADR, IMDG, IATA** UN2717
· **UN proper shipping name**
· **ADR** 2717 CAMPHOR
· **IMDG** CAMPHOR
· **IATA** Camphor

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· **Transport hazard class(es)**

· **ADR, IMDG, IATA**

· **Class**	4.1 Flammable solids, self-reactive substances, polymerizing substances and solid desensitized explosives
· **Label**	4.1
· **Packing group**	
· **ADR, IMDG, IATA**	III
· **Environmental hazards:**	Not applicable
· **Special precautions for user**	Warning: Flammable solids, self-reactive substances, polymerizing substances and solid desensitized explosives
· **Hazard identification number (Kemler code):**	40
· **EMS Number:**	F-A,S-I
· **Maritime transport in bulk according to IMO instruments**	Not applicable

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**	5 kg
· **Transport category**	3
· **Tunnel restriction code**	E

· **IMDG**

· **Limited quantities (LQ)**	5 kg
· **UN "Model Regulation":**	UN 2717 CAMPHOR, 4.1, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)** Not listed
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 40
· **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.

· **National regulations:**
· **Storage of hazardous substances in in nonstationary vessels (TRGS 510) (Germany)**
TRHS 510: 4.1 B Flammable solids or desensitizing explosive substances
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided is based on our current level of knowledge. This MSDS has been compiled and is exclusively for this product intended.
· **Reasons for alterations** This version replaces all old versions.
· **Date of previous version:** 01.10.2026
· **Version number of previous version:** 2.00

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· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international 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)
MAL-Code: Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Sol. 2: Flammable solids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
STOT SE 2: Specific target organ toxicity (single exposure) – Category 2
· *** Data compared to the previous version altered.**