

SAFETY DATA SHEET

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Die in diesem Produktdatenblatt genannten Spezifikationen dienen nur zur Produktbeschreibung und beziehen sich auf den Zeitpunkt unmittelbar nach der Produktion bzw. Import des Produktes. Sie entsprechen den Angaben des Herstellers. Eine rechtsverbindliche Zusicherung bestimmter Eigenschaften oder der Eignung für einen bestimmten Einsatzzweck kann hieraus nicht abgeleitet werden. Durch unsachgemäßen Transport und / oder unsachgemäße Lagerung können sich Änderungen ergeben. Die Angaben in diesem Produktdatenblatt entbinden den Verarbeiter nicht von eigener Prüfung der Eigenschaften des Produktes und dessen Eignung für die vorgesehene Verwendung.

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

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

- **1.1 Product identifier**
- **Molecular formula:** C10 H20 O
- **Trade name:** L-menthol
- **SDS number:** CH1169
- **CAS Number:**
2216-51-5
- **EC number:**
218-690-9
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Life cycle stages**
IS Use at industrial Sites
F Formulation or re-packing
- **Sector of Use**
SU9 Manufacture of fine chemicals
SU24 Scientific research and development
- **Product category**
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC40 Extraction agents
- **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
- **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of intermediate
- **Application of the substance / the mixture** Chemicals products for laboratory
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Deffner & Johann GmbH
Mühläckerstraße 13
DE-97520 Röhlein
Tel: +49 (0) 9723 9350-0
Fax: +49 (0) 9723 9350-25
- **Further information obtainable from:**
Q.A / Normative
email: info@deffner-johann.de
- **1.4 Emergency telephone number:**
France (ORFILA 24h/24) - Tel : +33 (0)1 45 42 59 59
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)
EU Tel : 112

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SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

- 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

- Signal word Warning
- Hazard statements
H319 Causes serious eye irritation.
- Precautionary statements

P264	Wash thoroughly after handling.
P280	Wear eye protection / face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
- 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
2216-51-5 L-menthol
- Identification number(s)
- EC number: 218-690-9

SECTION 4: First aid measures

- 4.1 Description of first aid measures
- After inhalation: Supply fresh air; consult a doctor in case of complaints.
- After skin contact:
Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.
If skin irritation continues, consult a doctor.
- After eye contact:
Rinse opened eye for several minutes under running water.
Seek immediate medical advice.

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- **After swallowing:** If some symptoms persist seek for medical advice.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Information for doctor:** Show the doctor this Material Safety Data Sheet.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **General Information:**
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Do not inhale gases in case of fire or combustion.
- **Additional information** Keep receptacles cool with water spray.

SECTION 6: Accidental release measures

- **General Information:** Use proper personal protective equipment as indicated in Section 8.
- **6.1 Personal precautions, protective equipment and emergency procedures**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Provide suction extractors if dust is formed.
- **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**
Prevent formation of dust.
Provide suction extractors if dust is formed.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** TLV not established.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Avoid contact with the eyes.
- **Respiratory protection:**
Use suitable respiratory protective device only when aerosol or mist is formed.
Filter P2
- **Protection of hands:** Rubber gloves
- **Material of gloves**
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.
Thin, disposable gloves in PVC or PE
- **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:**



Tightly sealed goggles

- **Limitation and supervision of exposure into the environment**
In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- **Risk management measures** Keep good industrial hygiene.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Molecular weight** 156.27 g
- **Appearance:**
- **Form:** Crystalline powder
- **Colour:** Light green
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
- **Melting point/freezing point:** 43-45 °C
- **Initial boiling point and boiling range:** 212 °C
- **Flash point:** 93 °C
- **Flammability (solid, gas):** Product is not flammable.
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Not determined.
- **Explosive properties:** Product does not present an explosion hazard.

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- **Explosion limits:**
 - Lower: Not determined.
 - Upper: Not determined.
- **Vapour pressure:** Not applicable.
- **Density at 20 °C:** 0.89 g/cm³
- **Relative density:** Not determined.
- **Vapour density:** Not applicable.
- **Evaporation rate:** Not applicable.
- **Solubility in / Miscibility with water:** Not determined.
- **organic solvents:** Insoluble
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
 - Dynamic: Not applicable.
 - Kinematic: Not applicable.
- **9.2 Other information:** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity:** See 10.3
- **10.2 Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions:** No dangerous reactions known.
- **10.4 Conditions to avoid:** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide, Carbon dioxide.

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:**

Dermal	LD50	3,300 mg/kg (rat)
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- **Primary irritant effect:**
- **Skin corrosion/irritation:** May cause skin irritation.
- **Serious eye damage/irritation:** Strong irritant with the danger of severe eye injury. Causes serious eye irritation.
- **Ingestion:** It can be harmful if swallowed.
- **Inhalation:** May be harmful if inhaled.
- **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.
- **Other information (about experimental toxicology):** No further relevant information available.
- **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.

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· **Aspiration hazard** Based on available data, the classification criteria are not met.**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Method**
- **Ecological information** Not available
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** No available data.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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 together with household garbage. Do not allow product to reach sewage system.
Reutilise if possible or contact a waste processors for recycling or safe disposal.
- **Waste disposal key:**
The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.
2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.
Directive 2008/98/EC of the european parliament and of the council of 18 November 2008, in ist latest valid version.

· **European waste catalogue**

HP4 Irritant - skin irritation and eye damage

- **Uncleaned packaging:**
The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.
Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.
- **Recommendation:**
Disposal must be made according to official regulations.
Wash with solvents to be incinerated.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

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SECTION 14: Transport information

· 14.1 UN-Number · ADR/RID, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR/RID, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR/RID, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR/RID, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

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.
- 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:
- Waterhazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Q.A./Normative
- References
ECDIN (Environmental Chem. Data and Information Network)
IUCLID (International Uniform Chemical Information Database)
NIOSH - Registry of Toxic Effects of Chemical Substances
Roth - Wassergefährdende Stoffe
Verschueren - Handbook of Environmental Data on Organic Chemicals
ChemDAT - Safety Data Sheets from E.Merck on CD-ROM
Merian - Metals and their compounds in the environment
- Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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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
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Sources

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in latest valid version.

Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.

Globally Harmonized System, GHS

ADR, IMDG, IATA

· * **Data compared to the previous version altered.** .

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