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Safety data sheet

BASF Company Ltd. Safety data sheet
Date / Revised: 26.12.2022 Version: 1.0
Product: **Hydroxycitronellal**

This is a translation of the country-specific safety data sheet into a language other than that required by law. It does not replace the safety data sheet prepared in accordance with Article 110 of the Industrial Safety and Health Law.

1. Substance/preparation and company identification

Hydroxycitronellal

Use: Chemical, Chemical for detergents, Cosmetic and oral care chemical, flavoring substance

Manufacturer/supplier:
BASF Company Ltd.
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Jung-gu, Seoul
REPUBLIC OF KOREA
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Telefax number: +82 2 3707-3122
E-mail address: Chemregulation-KR@basf.com

Emergency information:
Local emergency number:
Telephone: 080 770 3100 (Accident Reception)
International emergency number:
Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:
Serious eye damage/eye irritation: Cat. 2
Skin sensitization: Cat. 1

Label elements and precautionary statement:

Pictogram:

Signal Word: Warning

Hazard Statement:

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P261	Avoid breathing mist or vapour or spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P337 + P313	If eye irritation persists: Get medical attention.

Precautionary Statements (Disposal):

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

Other hazards which do not result in classification:
When finely distributed, self-ignition is possible.

3. Composition/information on ingredients

Chemical nature

7-hydroxycitronellal
CAS Number: 107-75-5
ECL-Number: KE-20434

Hazardous ingredients

7-hydroxycitronellal
(Synonym name: Hydroxycitronellal)

Content (W/W): >= 75 % - <= 100 %
CAS Number: 107-75-5
KE number: KE-20434

Composition information in accordance with Article 104 of the Industrial Safety and Health Law. However, it will be stated as blank in section 3 if there is no substance to be disclosed.

4. First-Aid Measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

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, consult an eye specialist.

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

Most important symptoms/effects, acute and delayed:
Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Indication of immediate medical attention and notes for physician:
Hazards: No data available.
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Suitable (and inappropriate) extinguishing media:
Suitable extinguishing media:
carbon dioxide, dry powder, foam

Specific hazards:
carbon oxides, harmful vapours
The substances/groups of substances mentioned can be released in case of fire.

Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

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:
Use personal protective clothing. Information regarding personal protective measures, see section 8.
Ensure adequate ventilation. Do not breathe vapour/spray. Avoid contact with the skin, eyes and clothing.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.

Methods for cleaning up or taking 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:

Handling

Ensure thorough ventilation of stores and work areas. Wear suitable protective clothing and eye/face protection. Avoid contact with the skin, eyes and clothing. Keep container tightly sealed.

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:

Storage

Segregate from oxidants.
Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place. Protect from the effects of light.

8. Exposure controls and personal protection

Exposure limits, biological limit values etc.:

Components with occupational exposure limits:

No substance specific occupational exposure limits known.

Biological Limit:
No data available.

Engineering Controls:
Use adequate exhaust ventilation to keep airborne concentration below exposure limits.

Personal protective equipment:

Respiratory protection:
Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:
Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.
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 based on level of activity and exposure.

General safety and hygiene measures:
Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. 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

Form:	liquid	
Colour:	colourless, clear	
Odour:	flowery	
Odour threshold:	< 100 ppm	
pH value:	approx. 7	
Melting point:	< -100 °C	(OECD Guideline 102)

Boiling point:	240.49 °C (1,013.25 hPa) The substance / product decomposes.	(measured)
decomposition point:	> 140 °C (1,013.25 hPa) The substance / product decomposes.	(measured)
Flash point:	113 °C Literature data.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability (solid/gas):	hardly combustible	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	210 °C	(DIN 51794)
Thermal decomposition:	30 - 400 °C No exothermic decomposition within the mentioned temperature range.	(DSC (DIN 51007))
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Self heating ability:	It is not a substance capable of spontaneous heating.	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	
Vapour pressure:	0.005472 hPa (20 °C) Extrapolated value	(measured)
Density:	0.9209 g/cm3 (20 °C)	(pyknometer)

Relative density:	0.9209 (20 °C)	(pyknometer)
Relative vapour density (air):	5.94 (20 °C) Heavier than air.	(calculated)
Solubility in water:	35 g/l (20 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Pow):	1.68 (25 °C)	(measured)
Adsorption/water - soil:	KOC: 10; log KOC: 1.0	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Viscosity, dynamic:	31.9 mPa.s (20 °C) The value was determined by calculation from the detected kinematic viscosity.	(OECD 114)
	11.0 mPa.s (40 °C) The value was determined by calculation from the detected kinematic viscosity.	(OECD 114)
Viscosity, kinematic:	34.6 mm2/s (20 °C)	(OECD 114)
	12.1 mm2/s (40 °C)	(OECD 114)
Molar mass:	172.27 g/mol	

10. Stability and Reactivity

Chemical stability: please refer to section 7

Conditions to avoid:
Avoid contact with air. Avoid all sources of ignition: heat, sparks, open flame. See SDS section 7 - Handling and storage.

Substances to avoid:
strong oxidizing agents, acids, bases

Corrosion to metals: No corrosive effect on metal.

Hazardous reactions:
When finely distributed, self-ignition is possible.

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

11. Toxicological Information

Information on the likely routes of exposure:
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute toxicity

Acute toxicity (including STOT (single exposure)):
LD50 rat (oral): > 6,400 mg/kg (similar to OECD guideline 401)

Acute toxicity (including STOT (single exposure)):
LD50 rabbit (dermal): > 2,000 mg/kg
No mortality was observed.

Irritation

Assessment of irritating effects:
Not irritating to the skin. Eye contact causes irritation.

Skin corrosion/irritation rabbit: non-irritant (Directive 84/449/EEC, B.4)

Serious eye damage/irritation rabbit: Irritant. (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:
May cause sensitization by skin contact.

mouse: skin sensitizing (similar to OECD guideline 429)
Literature data.

Repeated dose toxicity (including STOT repeated exposure)

Assessment of repeated dose toxicity:
Based on available data, the classification criteria are not met. The results were determined in a Screening test.

Aspiration hazard:

No aspiration hazard expected.

Germ cell mutagenicity

Assessment of mutagenicity:
The substance was not mutagenic in bacteria. The substance was mutagenic in a mammalian cell culture test system. As the significance of these findings for human health is not clear at this time, further tests are being initiated.

Carcinogenicity

Assessment of carcinogenicity:
No data available.

Reproductive toxicity

Assessment of reproduction toxicity:
In high doses a potential to impair fertility cannot be fully excluded. The results were determined in a Screening test (OECD 421/422). As the significance of these findings for human health is not clear at this time, further tests are being initiated.

Developmental toxicity

Assessment of teratogenicity:
The potential to cause toxicity to development cannot be excluded when given in high doses. The results were determined in a Screening test (OECD 421/422). An investigation of a developmental toxic effect is currently in progress.

Specific target organ systemic toxicity (single exposure):

Assessment of STOT single:
Based on available data, the classification criteria are not met.

Specific target organ systemic toxicity (repeated exposure):

please refer to Repeated dose toxicity

Numerical measures of toxicity (such as acute toxicity estimates)

12. Ecological Information

Ecotoxicity

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) 31.6 mg/l, Leuciscus idus (DIN 38412 Part 15, static)
The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates:
LC50 (48 h) 410 mg/l, Daphnia magna (Directive 79/831/EEC, static)
The details of the toxic effect relate to the nominal concentration.

Aquatic plants:
EC50 (72 h) 123.32 mg/l, Scenedesmus subspicatus (DIN 38412 Part 9, static)
The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge:
EC10 (17 h) 625 mg/l, Pseudomonas putida (DIN 38412 Part 8, aerobic)
The details of the toxic effect relate to the nominal concentration.

EC20 (30 min) > 1,000 mg/l, activated sludge (DIN EN ISO 8192-OECD 209-88/302/EEC,P. C, aerobic)

Chronic toxicity to fish:
No data available.

Chronic toxicity to aquatic invertebrates:
No data available.

Assessment of terrestrial toxicity:
No data available concerning terrestrial toxicity.

Mobility

Assessment transport between environmental compartments:
The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Elimination information:
80 - 90 % BOD of the ThOD (28 d) (OECD Guideline 301 F) (aerobic, activated sludge)

Assessment of stability in water:
Substance is readily biodegradable, therefore hydrolysis is not expected to be relevant.

Bioaccumulation potential

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

Bioaccumulation potential:
No data available.

Additional information

Other ecotoxicological advice:
No data available.

13. Disposal Considerations

Disposal method:
Observe national and local legal requirements.

Disposal consideration:
All waste produced at Site must be treated by authorized waste treatment company.
Should be disposed in compliance with national and local regulations

14. Transport Information

Domestic transport:

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

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
Hazard class:	Not applicable
Hazard label:	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport
IATA/ICAO

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

Further information:
No data available.

15. Regulatory Information

National legislation/Regulations

Industrial Safety and Health Law (South Korea):
The product is classified as hazardous by ISHL in Korea.

Hazardous Factors to be taken working environment measurement: no
Controlled Hazardous substances: no
Hazardous Factors to be taken special medical check: no
Special Controlled Hazardous substance: no
Control parameters such as occupational exposure limit: no

Chemicals Control Act (South Korea):

Toxic Substances:
This product does not contain toxic substances exceeding the concentration limit

Substances subject to authorization:
This product does not contain substances subject to authorization exceeding the concentration limit

Restricted substances:
This product does not contain restricted substances exceeding the concentration limit

Prohibited substances:
This product does not contain prohibited substances exceeding the concentration limit

Substances requiring preparation for accidents:
This product does not contain substances requiring preparation for accidents exceeding the concentration limit

Dangerous Goods Control Law (Korea):
4th group (Petroleum Group 3), Water soluble liquid, Hazard Category III

Waste management law (Korea):
All national and local regulations of this product should be observed and dispose in accordance with relevant regulations

Other regulations

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.

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

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