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Safety data sheet

BASF Company Ltd. Safety data sheet
Date / Revised: 23.12.2022 Version: 1.0
Product: **beta-Ionone R**

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.

(30035178/SDS_GEN_KR/EN)
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1. Substance/preparation and company identification

beta-Ionone R

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

Manufacturer/supplier:
BASF Company Ltd.
14-16F. KCCI Bldg., 39, Sejong-daero,
Jung-gu, Seoul
REPUBLIC OF KOREA
04513
Telephone: +82 2 3707-3100 / -7500 (Prod.Inq.)
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:
Hazardous to the aquatic environment - chronic: Cat. 2

Label elements and precautionary statement:

Pictogram:

Hazard Statement:
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):
P273 Avoid release to the environment.

Precautionary Statements (Response):
P391 Collect spillage.

Precautionary Statements (Disposal):
P501 Dispose of contents and container to hazardous or special waste collection point.

Other hazards which do not result in classification:
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

Chemical nature

(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one
CAS Number: 79-77-6
ECL-Number: KE-34479

Hazardous ingredients

(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one
(Synonym name: (E)-4-(2,6,6-Trimethyl-1-cyclohexen-1-yl)-3-buten-2-one)
Content (W/W): >= 75 % - <= 100 %
CAS Number: 79-77-6
KE number: KE-34479

6,10-dimethylundeca-3,5,9-trien-2-one
(Synonym name: 6,10-Dimethyhmdeca-3,5,9-trien-2-one)
Content (W/W): > 0 % - < 0.1 %
CAS Number: 141-10-6
KE number: KE-11898

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.

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:
Rinse mouth and then drink 200-300 ml of water.

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.

Indication of immediate medical attention and notes for physician:
Hazards: No data available.
Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

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

Unsuitable extinguishing media for safety reasons:
water jet

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

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

Environmental precautions:
Do not discharge into drains/surface waters/groundwater. Inform authorities in the event of product spillage to water courses or sewage systems.

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

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:

Storage

Odour-sensitive: Segregate from products releasing odours.
Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place.

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:
Chemical resistant protective gloves (EN ISO 374-1)
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:
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. 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 to slightly yellow	
Odour:	flowery	
Odour threshold:	< 100 ppm	
pH value:	not applicable	
Melting point:	-35 °C (1,013 hPa) Literature data.	
Boiling point:	267.1 °C (1,013 hPa)	
Flash point:	126 °C	(ISO 2719, closed cup)
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:	273 °C	(DIN EN 14522)
Thermal decomposition:	approx. 280 °C self-accelerating reaction	(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.	(other)
Fire promoting properties:	not fire-propagating	
Vapour pressure:	approx. 0.072 hPa (25 °C) Literature data.	(measured)
Density:	0.9447 g/cm3 (20 °C) Literature data.	
Relative density:	0.9447 (20 °C) Literature data.	
Relative vapour density (air):	> 1 (20 °C) Heavier than air.	(calculated)
Solubility in water:	0.11 g/l (20 °C)	
Solubility (qualitative) solvent(s):	organic solvents readily soluble	
Partitioning coefficient n-octanol/water (log Pow):	4 (25 °C) Literature data.	(OECD Guideline 117)
Adsorption/water - soil:	KOC: 625.1; log KOC: 2.8	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	

Viscosity, dynamic:	11.2 mPa.s (20 °C)	(OECD 114)
	5.04 mPa.s (40 °C)	(OECD 114)
Viscosity, kinematic:	11.8 mm2/s (20 °C)	(OECD 114)
	5.43 mm2/s (40 °C)	(OECD 114)
Molar mass:	192.30 g/mol	

10. Stability and Reactivity

Chemical stability: please refer to section 7

Conditions to avoid:
See SDS section 7 - Handling and storage.

Substances to avoid:
None known during use and storage if used according to instructions.

Corrosion to metals: No corrosive effect on metal.

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

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): > 4,000 mg/kg

Acute toxicity (including STOT (single exposure)):
(by inhalation):No data available.

Acute toxicity (including STOT (single exposure)):

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation

Assessment of irritating effects:
Not irritating to the skin. Not irritating to the eyes.

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:
The substance did not cause skin sensitization in humans.

guinea pig: Non-sensitizing. (similar to OECD guideline 406)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

human: Non-sensitizing. (Human patch test)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Repeated dose toxicity (including STOT repeated exposure)

Assessment of repeated dose toxicity:
No substance-specific organtoxicity was observed after repeated administration to animals.

Aspiration hazard:
not applicable

Germ cell mutagenicity

Assessment of mutagenicity:
Most of the results from the available studies show no evidence of a mutagenic effect. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity

Assessment of carcinogenicity:
The whole of the information assessable provides no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

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 toxic 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. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish:
LC50 (96 h) 5.09 mg/l, Pimephales promelas (EPA 72-1, Flow through.)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.

Aquatic invertebrates:
EC50 (48 h) 4.03 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The details of the toxic effect relate to the nominal concentration.

Aquatic plants:
EC50 (72 h) 22.15 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.

Microorganisms/Effect on activated sludge:
EC50 (30 min) approx. 1,000 mg/l, activated sludge, domestic (DIN EN ISO 8192-OECD 209-88/302/EEC,P. C, aerobic)

Chronic toxicity to fish:
Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Assessment of terrestrial toxicity:
No data available concerning terrestrial toxicity.
Study scientifically not justified.

Soil living organisms:
No data available.

Terrestrial plants:
No data available.

Other terrestrial non-mammals:
LD50 > 562 mg/kg, Agelaius phoeniceus
Unspecified

Mobility

Assessment transport between environmental compartments:
The substance will slowly 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:
70 - 80 % BOD of the ThOD (28 d) (OECD Guideline 301 F) (aerobic, activated sludge, domestic)

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 possible.

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:

UN number or ID number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BETA-IONONE)
Hazard class:	9
Hazard label:	9,(EHSM)
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

Sea transport
IMDG

UN number or ID number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BETA-IONONE)
Hazard class:	9
Hazard label:	9,(EHSM)
Packing group:	III
Environmental hazards:	yes Marine pollutant: YES
Special precautions for user:	EmS: F-A; S-F

Air transport
IATA/ICAO

UN number or ID number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BETA-IONONE)
Hazard class:	9
Hazard label:	9,(EHSM)
Packing group:	III
Environmental hazards:	yes

Special precautions for user: None known

Further information:
Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

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.