

# Safety data sheet

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BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)

Date / Revised: 17.08.2023

Version: 4.0

Product: **Dodecen**

(ID no. 30034827/SDS\_GEN\_00/EN)

Date of print 07.10.2025

## 1. Identification

### Product identifier

## Dodecen

Chemical name: isododecene

CAS Number: 97280-83-6

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

Relevant identified uses: Only to be used as intermediate according to the REACH Regulation (EC) No 1907/2006, art. 18

Recommended use: Only to be used as intermediate according to the REACH Regulation (EC) No 1907/2006, art. 18

### Details of the supplier of the safety data sheet

#### Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Petrochemicals

Telephone: +49 621 60-42151

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### Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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## 2. Hazards Identification

### Classification of the substance or mixture

According to UN GHS criteria

Asp. Tox. 1  
Flam. Liq. 4  
Skin Corr./Irrit. 2

For the classifications not written out in full in this section the full text can be found in section 16.

**Label elements**Globally Harmonized System (GHS)

Pictogram:



Signal Word:  
Danger

Hazard Statement:

H227	Combustible liquid.
H315	Causes skin irritation.
H304	May be fatal if swallowed and enters airways.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical attention.
P331	Do NOT induce vomiting.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.

Precautionary Statements (Storage):

P405	Store locked up.
P403	Store in a well-ventilated place.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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**Other hazards**According to UN GHS criteria

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.

See section 12 - Results of PBT and vPvB assessment.

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### 3. Composition/Information on Ingredients

#### Substances

##### Chemical nature

Dodecene, branched (Content (W/W):  $\geq 99,5\%$ )

CAS Number: 97280-83-6

EC-Number: 306-479-5

##### Hazardous ingredients (GHS)

According to UN GHS criteria

Dodecene, branched

Content (W/W):  $\geq 99,91\%$  -  $\leq 99,91\%$

CAS Number: 97280-83-6

EC-Number: 306-479-5

Asp. Tox. 1

Flam. Liq. 4

Skin Corr./Irrit. 2

H227, H315, H304

For the classifications not written out in full in this section the full text can be found in section 16.

#### Mixtures

Not applicable

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### 4. First-Aid Measures

#### Description of first aid measures

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

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

On skin contact:

Immediately wash thoroughly with soap and water, seek medical attention.

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 and effects, both 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

Hazards: When inhaled (e.g. during vomiting) risk of pulmonary oedema and/or pneumonia.

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 any immediate medical attention and special treatment needed**

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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**5. Fire-Fighting Measures****Extinguishing media**

Suitable extinguishing media:

dry powder, water spray, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:  
water jet

Additional information:

Use extinguishing measures to suit surroundings.

**Special hazards arising from the substance or mixture**

The product is combustible. Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

**Advice for fire-fighters**

Special protective equipment:

Wear a self-contained breathing apparatus. Special protective equipment for firefighters

Further information:

Evacuate area of all unnecessary personnel. Fight fire from maximum distance.

Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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**6. Accidental Release Measures**

High risk of slipping due to leakage/spillage of product.

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

**Personal precautions, protective equipment and emergency procedures**

Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools. Avoid contact with the skin, eyes and clothing.

Take off immediately all contaminated clothing.

**Environmental precautions**

Discharge into the environment must be avoided.

**Methods and material for containment and cleaning up**

Pick up with suitable appliance and dispose of. Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations.

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**7. Handling and Storage****Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

Avoid all sources of ignition: heat, sparks, open flame. Ground all transfer equipment properly to prevent electrostatic discharge.

**Conditions for safe storage, including any incompatibilities**

No applicable information available.

Further information on storage conditions: Keep under inert gas. Containers should be stored tightly sealed in a dry place.

**Specific end use(s)**

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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**8. Exposure Controls/Personal Protection****Exposure controls**Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Suitable respiratory protection for lower concentrations or short-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A) Suitable respiratory protection for higher concentrations or long-term effect: Self-contained breathing apparatus.

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): nitrile rubber (NBR) - 0.4 mm coating thickness

Manufacturer's directions for use should be observed because of great diversity of types.

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.

#### Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

#### Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

#### General safety and hygiene measures

Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Avoid exposure - obtain special instructions before use. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice. At the end of the shift the skin should be cleaned and skin-care agents applied.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	of petroleum	
Odour threshold:	not determined	
pH value:	not applicable, of very low solubility	
Melting point:	< -20 °C The statements are based on the properties of the individual components.	
Boiling point:	199 °C (1.002,4 hPa)	(other)
Flash point:	approx. 78 °C The product has not been tested. The statement has been derived from the properties of the individual components.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	not readily ignited	(other)
Lower explosion limit:	0,8 %(V)	
Upper explosion limit:	For liquids not relevant for classification and labelling. 4,9 %(V)	

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Ignition temperature:	For liquids not relevant for classification and labelling. approx. 231 °C The product has not been tested. The statement has been derived from the properties of the individual components.	
Vapour pressure:	approx. 0,1 hPa (20 °C) dynamic	(measured)
Density:	approx. 0,7584 g/cm3 (20 °C, 1.013 hPa) The statements are based on the properties of the individual components.	(other)
Relative vapour density (air):	> 1 (20 °C) Heavier than air.	(estimated)
Solubility in water:	The product has not been tested. The statement has been derived from the properties of the individual components. approx. < 1 mg/l (25 °C, 1.013 hPa)	(calculated)
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	6,02 (25 °C)	(calculated)
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	1,365 mPa.s (20 °C) The value was determined by calculation from the detected kinematic viscosity.	
Viscosity, kinematic:	1,8 mm2/s (20 °C) The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	(other)
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	(other)

**Other information**

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Self heating ability:	It is not a substance capable of spontaneous heating.	
Radioactivity:		not radioactive for transport purposes
pKA:	The substance does not dissociate.	
Adsorption/water - soil:	KOC: 4915; log KOC: 3,69 Adsorption to solid soil phase is possible.	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.	
Molar mass:	168,32 g/mol	

## 10. Stability and Reactivity

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated., When heated can give off ignitable vapours., Vapours may form explosive mixture with air.

Corrosion to metals:	No corrosive effect on metal.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Peroxides:	The product/the substance has not a tendency towards the formation of peroxide.	
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### Possibility of hazardous reactions

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

### Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame.

### Incompatible materials

Substances to avoid:  
strong oxidizing agents

### Hazardous decomposition products

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



## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard. Virtually nontoxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral): > 2.000 mg/kg (BASF-Test)

No mortality was observed.

LC50 rat (by inhalation): > 3,8 mg/l 7 h (IRT)

No mortality within the stated exposition time as shown in animal studies. The vapour was tested.

LD50 rabbit (dermal): > 2.446 mg/kg

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. No mortality was observed.

#### Irritation

Assessment of irritating effects:

Skin contact causes irritation. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

#### Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Buehler test 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.

#### Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria.

#### Carcinogenicity

Assessment of carcinogenicity:

No data available.

#### Reproductive toxicity

Assessment of reproduction toxicity:

No data available.

#### Developmental toxicity

Assessment of teratogenicity:

No data available.

#### Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

#### Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

No data available.

#### Aspiration hazard

May be fatal if swallowed and enters airways.

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## 12. Ecological Information

### Toxicity

Assessment of aquatic toxicity:

No toxic effects occur within the range of solubility. 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) > 10.000 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

Nominal concentration.

Aquatic invertebrates:

EC50 (48 h) > 3,1 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

The product is highly volatile. Tested in a closed test system.

Aquatic plants:

EC50 (72 h) 18 mg/l (growth rate), *Scenedesmus subspicatus* (DIN 38412 Part 9, static)

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.

Microorganisms/Effect on activated sludge:

EC20 (30 min) > 1.000 mg/l, activated sludge, domestic, aerobic (DIN EN ISO 8192-OECD 209-88/302/EEC, P. C, aquatic)

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) > 0,018 mg/l, *Daphnia magna* (OECD Guideline 211, semistatic)

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. Limit concentration test only (LIMIT test). No effects at the highest test concentration.

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

### **Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):  
Moderately/partially biodegradable. Not readily biodegradable (by OECD criteria).

Elimination information:  
20 - 60 % BOD of the ThOD (OECD 301F; ISO 9408; 92/69/EEC, C.4-D) (aerobic, activated sludge, adapted) Moderately/partially biodegradable.

### **Bioaccumulative potential**

Assessment bioaccumulation potential:  
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is possible.

Bioaccumulation potential:  
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is possible.

### **Mobility in soil**

Assessment transport between environmental compartments:  
Adsorption in soil: Adsorption to solid soil phase is possible.

### **Results of PBT and vPvB assessment**

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

### **Other adverse effects**

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

### **Additional information**

Other ecotoxicological advice:  
No toxic effects occur within the range of solubility. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

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## **13. Disposal Considerations**

### **Waste treatment methods**

| Dispose of in accordance with national, state and local regulations.

Contaminated packaging:

| Disposal must be made according to official regulations.

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## 14. Transport Information

### Land transport

#### ADR

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

#### RID

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

### Inland waterway transport

#### ADN

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

#### Transport in inland waterway vessel

UN number or ID number: ID9003

UN proper shipping name: SUBSTANCES WITH FLASH-POINT BETWEEN 60°C - 100°C (ISODODECENE)

Transport hazard class(es): 9, F

Packing group: Not applicable

Environmental hazards: no

Type of inland waterway vessel: N

Cargo tank design: 4

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Cargo tank type: 3

**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
Transport hazard class(es):	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
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

**Maritime transport in bulk according to IMO instruments**

Maritime transport in bulk is not intended.

**15. Regulatory Information****Safety, health and environmental regulations/legislation specific for the substance or mixture**

Not applicable

**16. Other Information**

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Asp. Tox.	Aspiration hazard
Flam. Liq.	Flammable liquids
Skin Corr./Irrit.	Skin corrosion/irritation
H227	Combustible liquid.
H315	Causes skin irritation.
H304	May be fatal if swallowed and enters airways.

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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.

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