

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



**n-Decane ≥ 99%, for synthesis**

article number: **3475**  
Version: **GHS 2.0 en**  
Replaces version of: 2021-06-24  
Version: (GHS 1)

date of compilation: 2021-06-24  
Revision: 2024-03-04

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

### 1.1 Product identifier

Identification of the substance **n-Decane ≥ 99%, for synthesis**  
Article number 3475  
CAS number 124-18-5

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use  
Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs.

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

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:**+49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** sicherheit@carlroth.de  
**Website:** www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	Flammable liquid	3	Flam. Liq. 3	H226
3.10	Aspiration hazard	1	Asp. Tox. 1	H304

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## Supplemental hazard information

Code	Supplemental hazard information
AUH066	repeated exposure may cause skin dryness or cracking

For full text of abbreviations: see SECTION 16

## The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

## 2.2 Label elements

### Labelling

#### Signal word

Danger

#### Pictograms

GHS02, GHS08



#### Hazard statements

H226

Flammable liquid and vapour

H304

May be fatal if swallowed and enters airways

#### Precautionary statements

##### Precautionary statements - prevention

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

##### Precautionary statements - response

P301+P310

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P331

Do NOT induce vomiting

P370+P378

In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

##### Precautionary statements - storage

P403+P235

Store in a well-ventilated place. Keep cool

##### Precautionary statements - disposal

P501

Dispose of contents/container to industrial combustion plant

#### Supplemental hazard information

AUH066

Repeated exposure may cause skin dryness or cracking.

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq$  0,1%.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	n-Decane
Molecular formula	$C_{10}H_{22}$
Molar mass	142.3 g/mol
CAS No	124-18-5

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

Observe aspiration hazard if vomiting occurs. Call a physician immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

Aspiration hazard, Irritation

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water spray, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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## 5.2 Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air. Solvent vapours are heavier than air and may spread along floors.

### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

## 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources. Ventilate affected area.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation.

#### Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

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## Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

## 7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

### Incompatible substances or mixtures

Observe hints for combined storage.

### Consideration of other advice:

Ground/bond container and receiving equipment.

### Ventilation requirements

Use local and general ventilation.

### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

## 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

#### Environmental values

Relevant PNECs and other threshold levels				
End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	4.5 $\mu\text{g}/\text{l}$	aquatic organisms	water	intermittent release
PNEC	1.2 $\mu\text{g}/\text{l}$	aquatic organisms	freshwater	short-term (single instance)
PNEC	1.2 $\mu\text{g}/\text{l}$	aquatic organisms	marine water	short-term (single instance)
PNEC	18 $\mu\text{g}/\text{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0.33 $\text{mg}/\text{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.33 $\text{mg}/\text{kg}$	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0.13 $\text{mg}/\text{kg}$	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

#### Eye/face protection



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Use safety goggle with side protection.

### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • type of material

NBR (Nitrile rubber)

#### • material thickness

>0,11 mm

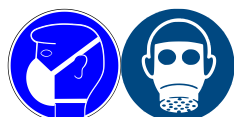
#### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	characteristic
Melting point/freezing point	-27 °C at 1 atm (ECHA)
Boiling point or initial boiling point and boiling range	$\geq$ 174 - $\leq$ 180 °C at 1 atm (ECHA)
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	0.7 vol% (LEL) - 5.4 vol% (UEL)

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Flash point	57.4 °C at 1 atm (ECHA)
Auto-ignition temperature	206 °C at 1 atm (ECHA)
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	1.16 mm <sup>2</sup> /s at 20 °C <7 mm <sup>2</sup> /s at 40 °C
Dynamic viscosity	0.8491 cP at 20 °C

### Solubility(ies)

Water solubility 0.083 mg/l at 25 °C (ECHA)

### Partition coefficient

Partition coefficient n-octanol/water (log value): 5.86 (pH value: 7, 25 °C) (ECHA)

Soil organic carbon/water (log KOC) 4.16 (ECHA)

Vapour pressure 135 Pa at 20 °C

### Density and/or relative density

Density 0.732 g/cm<sup>3</sup> at 20 °C (ECHA)

Relative vapour density 4.91 (air = 1)

Particle characteristics not relevant (liquid)

### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes: There is no additional information.

Other safety characteristics: There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

It's a reactive substance. Risk of ignition.

#### **If heated**

Risk of ignition. Vapours may form explosive mixtures with air.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** strong oxidiser

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## 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## 10.5 Incompatible materials

There is no additional information.

## 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification acc. to GHS

##### Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4. May be harmful in contact with skin or if inhaled.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>5,000 mg/kg	rat		ECHA
inhalation: vapour	LC50	≥6,100 mg/m <sup>3</sup> /4h	rat		ECHA
dermal	LD50	≥3,160 mg/kg	rabbit		ECHA

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

May be fatal if swallowed and enters airways.

#### Symptoms related to the physical, chemical and toxicological characteristics



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- **If swallowed**

vomiting, aspiration hazard

- **If in eyes**

Data are not available.

- **If inhaled**

Data are not available.

- **If on skin**

Frequently or prolonged contact with skin may cause dermal irritation

- **Other information**

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq$  0,1%.

## SECTION 12: Ecological information

### 12.1 Toxicity

Harmful to aquatic life.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
LL50	$>100 \text{ mg/l}$	fish	ECHA	24 h
EL50	$100 \text{ mg/l}$	aquatic invertebrates	ECHA	48 h

### 12.2 Persistence and degradability

Theoretical Oxygen Demand:  $3.486 \text{ mg/mg}$   
Theoretical Carbon Dioxide:  $3.093 \text{ mg/mg}$

#### Biodegradation

Not readily biodegradable.

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	100 %	21 d
oxygen depletion	7.3 %	4 d
carbon dioxide generation	0 %	3 d

### 12.3 Bioaccumulative potential

The substance fulfils the very bioaccumulative criterion.

n-octanol/water (log KOW)	5.86 (pH value: 7, 25 °C) (ECHA)
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## 12.4 Mobility in soil

The Organic Carbon normalised adsorption coefficient	4.16 (ECHA)
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## 12.5 Results of PBT and vPvB assessment

Data are not available.

## 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq$  0,1%.

## 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### Relevant provisions relating to waste(Basel Convention)

##### Properties of waste which render it hazardous

**H3** Flammable liquids  
**H11** Toxic (Delayed or chronic)

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

<b>UN RTDG</b>	UN 2247
IMDG-Code	UN 2247
ICAO-TI	UN 2247

### 14.2 UN proper shipping name

<b>UN RTDG</b>	n-DECANE
IMDG-Code	n-DECANE
ICAO-TI	n-Decane

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## 14.3 Transport hazard class(es)

UN RTDG	3
IMDG-Code	3
ICAO-TI	3

## 14.4 Packing group

UN RTDG	III
IMDG-Code	III
ICAO-TI	III

## 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

## 14.6 Special precautions for user

There is no additional information.

## 14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

## 14.8 Information for each of the UN Model Regulations

Transport information National regulations Additional information (UN RTDG)

UN number	2247
Class	3
Packing group	III
Danger label(s)	3



Special provisions (SP) -  
UN RTDG

Excepted quantities (EQ) E1  
UN RTDG

Limited quantities (LQ) 5 L  
UN RTDG

Emergency Action Code 3Y

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	n-DECANE
Particulars in the shipper's declaration	UN2247, n-DECANE, 3, III, 57.4°C c.c.
Marine pollutant	-
Danger label(s)	3



Special provisions (SP) -

Excepted quantities (EQ) E1

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Limited quantities (LQ)	5 L
EmS	F-E, S-E
Stowage category	A

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	n-Decane
Particulars in the shipper's declaration	UN2247, n-Decane, 3, III
Danger label(s)	3



Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 L

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

There is no additional information.

#### National regulations(Australia)

##### Australian Inventory of Chemical Substances(AICS)

Substance is listed.

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

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## Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		Supplemental hazard information	yes
2.1		Supplemental hazard information: change in the listing (table)	yes
2.2		Supplemental hazard information	yes
2.2		Supplemental hazard information: change in the listing (table)	yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8		Emergency Action Code: 3Y	yes
15.1		Other information: Directive 94/33/EC on the protection of young people at work. Observe employment restric- tions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.	yes
15.1		National inventories: change in the listing (table)	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms

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Abbr.	Descriptions of used abbreviations
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
UEL	Upper explosion limit (UEL)
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.