

**Dodecane-(n), GC reference standard**

Revision: 30.09.2024

Product code: AC18.04583

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

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Substance name: dodecane  
REACH Registration Number: 01-2119486573-28-XXXX  
CAS No: 112-40-3  
EC No: 203-967-9

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet****Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: N-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem Belgium NV  
Street: Industriezone "De Arend" 2  
Place: B-8210 Zedelgem  
Telephone: +32 50 28 83 20  
E-mail: info.be@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Responsible Department: AnalytiChem  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

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**1.4. Emergency telephone number:** +44 20 3807 3798 (CHEMTREC)**Further Information**

No data available

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Asp. Tox. 1; H304

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008**

Signal word: Danger

Pictograms:

**Hazard statements**

H304 May be fatal if swallowed and enters airways.

EUH066 Repeated exposure may cause skin dryness or cracking.

**Precautionary statements**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P331 Do NOT induce vomiting.

P405 Store locked up.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.1. Substances**

Sum formula: C12H26

Molecular weight: 170,34 g/mol

**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
112-40-3	dodecane			100 %
	203-967-9		01-2119486573-28-XXXX	
	Asp. Tox. 1; H304 EUH066			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
112-40-3	203-967-9	dodecane	100 %
	dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 15000 mg/kg		

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**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

No data available

**After inhalation**

Provide fresh air.  
Call a doctor if you feel unwell.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap.  
Take off immediately all contaminated clothing and wash it before reuse.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.  
Remove contact lenses, if present and easy to do. Continue rinsing.

**After ingestion**

Do NOT induce vomiting.  
Observe risk of aspiration if vomiting occurs.  
Call a physician immediately.

**4.2. Most important symptoms and effects, both acute and delayed**

Irritant  
Cough  
Dyspnoea  
Headache  
Dizziness

**4.3. Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO2)  
Foam  
Extinguishing powder

**Unsuitable extinguishing media**

no restriction

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

Combustible liquids  
Hazardous combustion products  
In case of fire may be liberated: Carbon dioxide (CO2) Carbon monoxide  
In case of warming:  
Vapours are heavier than air, spread along floors and form explosive mixtures with air.  
Heating causes rise in pressure with risk of bursting.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

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In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

**6.3. Methods and material for containment and cleaning up****For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

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

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment.

Do not breathe vapour/aerosol.

Provide adequate ventilation.

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**Advice on protection against fire and explosion**

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

Wash hands and face before breaks and after work and take a shower if necessary.

When using do not eat or drink.

Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

**Further information on handling**

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.

Store in a cool dry place.

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

**Hints on joint storage**

Take national regulations into account.

**Further information on storage conditions**

Protect from sunlight.

storage temperature +15°C - +25°C

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****PNEC values**

CAS No	Substance	
	Environmental compartment	Value
112-40-3	dodecane	
	Freshwater	0,00096 mg/l
	Freshwater (intermittent releases)	0,0037 mg/l
	Marine water	0,00093 mg/l
	Freshwater sediment	2 mg/kg
	Marine sediment	2 mg/kg
	Micro-organisms in sewage treatment plants (STP)	0,014 mg/l
	Soil	0,81 mg/kg

**8.2. Exposure controls****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

goggles

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Face protection umbrella

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation KCL 730 Camatril® Velours

Suitable material: NBR (Nitrile rubber) 0,4 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 720 Camapren®

Suitable material: CR (polychloroprene, chloroprene rubber) 0,65 mm

Wearing time with occasional contact (splashes): > 60 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

**Skin protection**

Take off immediately all contaminated clothing and wash it before reuse.

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands and face before breaks and after work and take a shower if necessary.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Danger of explosion

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	colourless
Odour:	like: Petrol
Odour threshold:	No data available
Melting point/freezing point:	-9,6 °C
Boiling point or initial boiling point and boiling range:	215-217 °C
Flammability:	No data available

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Lower explosion limits:	0,6 vol. %
Upper explosion limits:	40 vol. %
Flash point:	70 °C
Auto-ignition temperature:	200 °C
Decomposition temperature:	No data available
pH-Value:	No data available
Water solubility: (at 25 °C)	practically insoluble
Solubility in other solvents	
No data available	
Partition coefficient n-octanol/water:	No data available
Vapour pressure: (at 20 °C)	1,3 hPa
Vapour pressure:	No data available
Density:	0,75 g/cm³
Bulk density:	No data available
Relative vapour density:	No data available

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties****In case of warming:**

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

**Sustained combustibility:**

Sustained combustibility

**Self-ignition temperature**

Solid:

No data available

Gas:

No data available

**Oxidizing properties**

No data available

**Other safety characteristics****Evaporation rate:**

No data available

**Solvent separation test:**

No data available

**Solvent content:**

100%

**Solid content:**

No data available

**Sublimation point:**

No data available

**Softening point:**

No data available

**Pour point:**

No data available

**Flow time:**

No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity****In case of warming:**

Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Oxidising agent

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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**

Plastic articles

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information****11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
112-40-3	dodecane				
	oral	LD50 mg/kg	> 15000 Rat	Study report (1977)	OECD Guideline 423
	dermal	LD50 mg/kg	> 5000 Rabbit	Study report (1993)	OECD Guideline 402

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Repeated exposure may cause skin dryness or cracking.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects 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.

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**

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**Other information**

No data available

**Further information**

Irritant

Cough

Dyspnoea

Headache

Dizziness

**SECTION 12: Ecological information****12.1. Toxicity**

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
112-40-3	dodecane					
	Acute algae toxicity	ErC50 57161 mg/l	72 h	Skeletonema costatum	Study report (1997)	ISO 10253
	Acute crustacea toxicity	EC50 ca. 0,2 mg/l	48 h	Daphnia magna	Study report (1987)	other: As described in: The evaluation o
	Fish toxicity	NOEC mg/l > 1000	28 d	Oncorhynchus mykiss	REACH Registration Dossier	The aquatic toxicity was estimated by a
	Crustacea toxicity	NOEC mg/l > 1000	21 d	Daphnia magna	REACH Registration Dossier	The aquatic toxicity was estimated by a

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential****Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
112-40-3	dodecane	6,98

**BCF**

CAS No	Chemical name	BCF	Species	Source
112-40-3	dodecane	144,3	calculated	Other company data (

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of UK REACH.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Avoid release to the environment.

**Further information**

Do not allow to enter into surface water or drains.

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**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.  
Send to a physico-chemical treatment facility under observation of official regulations.  
Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.  
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS:

No

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to Directive 2012/18/EU (SEVESO III):

P5c FLAMMABLE LIQUIDS

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**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

**SECTION 16: Other information****Abbreviations and acronyms**

Asp. Tox. 1: Aspiration hazard, hazard category 1

**Relevant H and EUH statements (number and full text)**

H304 May be fatal if swallowed and enters airways.  
EUH066 Repeated exposure may cause skin dryness or cracking.

**Further Information**

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.