according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



date of compilation: 2016-02-22

Heptane (Isomers) ≥98,5 %, for synthesis

article number: **7725** Version: **1.0 en**

	TION 1: Identification of the substanc pany/undertaking	e/mixture and of the
1.1	Product identifier	
	Identification of the substance	Heptane (Isomers)
	Article number	7725
	Registration number (REACH)	not relevant (mixture)
1.2	Relevant identified uses of the substance or mix	cture and uses advised against
	Identified uses:	laboratory chemical
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
1.4	Emergency telephone number	

Emergency information service

Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

Classification of the substance or mixture 2.1

Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification acc. to GHS

Section	Hazard class	Hazard class and cat- egory	Hazard state-
2.6			ment
2.6	flammable liquid	(Flam. Liq. 2)	H225
3.2	skin corrosion/irritation	(Skin Irrit. 2)	H315
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	(STOT SE 3)	H336
3.10	aspiration hazard	(Asp. Tox. 1)	H304
4.1A	hazardous to the aquatic environment - acute hazard	(Aquatic Acute 1)	H400
4.1C	hazardous to the aquatic environment - chronic hazard	(Aquatic Chronic 1)	H410

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Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects Narcotic effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word Danger

Pictograms



Hazard statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Precautionary statements - prevention

P210	Keep away from heat, hot surfaces, sparks, open flames. No smoking.
P273	Avoid release to the environment.

Precautionary statements - response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P331	Do NOT induce vomiting.

Precautionary statements - storage

P403+P235 Store in a well-ventilated place. Keep cool.

Hazardous ingredients for labelling:

Light naphtha-hydrotreated, n-heptane

Labelling of packages where the contents do not exceed 125 ml Signal word: Danger

Symbol(s)

H304May be fatal if swallowed and enters airways.P301+P310IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
Do NOT induce vomiting.contains:Light naphtha-hydrotreated, N-heptane

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2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture

Composition/information on ingredients.

Name of substance	Identifier	wt%	Classification acc. to 1272/2008/EC	Pictograms
Light naphtha-hydro- treated	CAS No 64742-49-0 EC No 265-151-9 Index No 649-328-00-1	≥ 50	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	
n-heptane	CAS No 142-82-5 EC No 205-563-8 Index No 601-008-00-2 REACH Reg. No 01-2119457603-38- xxxx	25 - 50	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	

Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



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Following eye contact

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

Following ingestion

Rinse mouth. Do not induce vomiting. Call a physician immediately. Aspiration hazard.

4.2 Most important symptoms and effects, both acute and delayed Aspiration hazard, Agitation, Cardiac arrhythmias, Headache, Gastrointestinal complaints, Vertigo, Nausea, Fatigue, Irritation, Vomiting, Dizziness, Drowsiness, Narcosis

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 fire-fighting measures to the fire surroundings foam, dry extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. Beware of reignition. Vapours can form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

Do not allow firefighting water to enter drains or water courses. 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

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



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Advices on how to clean up a spill

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

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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



YKeep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage

of vapours into cellars, flues and ditches.

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

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.

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



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SECTION 8: Exposure controls/personal protection

8.1 **Control parameters**

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

Cou ntry	Name of agent	CAS No	Nota- tion	Identifi- er	TWA [pp m]	TWA [mg/m ³]	STEL [pp m]	STEL [mg/m ³]	Source
EU	heptane (n-heptane)	142-82-5		IOELV	500	2.085			2000/39/EC
GB	n-heptane	142-82-5		WEL	500	2.085			EH40/2005

Notation STEL

Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average TWA

Relevant DNELs/DMELs/PNECs and other threshold levels

• relevant DNELs of components of the mixture

Name of sub- stance	CAS No	End- point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
n-heptane	142-82-5	DNEL	2.085 mg/m ³	human, inhalatory	worker (in- dustry)	chronic - systemic ef- fects
n-heptane	142-82-5	DNEL	300 mg/kg	human, dermal	worker (in- dustry)	chronic - systemic ef- fects

8.2 **Exposure controls**

Individual protection measures (personal protective equipment)



Eye/face protection

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.

type of material

NBR (Nitrile rubber)

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



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material thickness

0,4 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.

Flame-retardant protective clothing.

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).

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

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

Appearance	
Physical state	liquid (fluid)
Colour	colourless
Odour	characteristic
Odour threshold	No data available
Other physical and chemical parameters	
pH (value)	This information is not available.
Melting point/freezing point	-91 °C
Initial boiling point and boiling range	90 °C
Flash point	-5 °C
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	
 lower explosion limit (LEL) 	0,7 vol% (46 g/m³)
• upper explosion limit (UEL)	8,3 vol% (280 g/m³)
Explosion limits of dust clouds	not relevant
Vapour pressure	350 hPa at 20 °C
Density	0,713 ^g / _{cm³} at 20 °C
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.

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Solubility(ies)	
Water solubility	2 $^{ m mg}$ /l at 20 °C , practically insoluble
Partition coefficient	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	204 °C
Decomposition temperature	no data available
Viscosity	not determined
Explosive properties	none
Oxidising properties	none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

risk of ignition. Vapours can 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
- **10.4 Conditions to avoid** Keep away from heat.
- **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

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Causes skin irritation.

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.

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Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

• 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

If swallowed

vomiting, varying degrees of pulmonary injury, nausea, gastrointestinal complaints, aspiration hazard

• If in eyes

slightly irritant but not relevant for classification

• If inhaled

fatigue, narcosis

• If on skin

Prolonged or repeated contact with skin or mucous membrane result in irritation symptoms such as redness, blistering, dermatitis, etc

Other information

Dyspnoea, Narcosis, Agitation

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
n-heptane	142-82-5	LL50	5,738 ^{mg} /l	fish	96 hours
n-heptane	142-82-5	EC50	1,5 ^{mg} /l	aquatic inverteb- rates	48 hours
n-heptane	142-82-5	EL50	3,9 ^{mg} /l	aquatic inverteb- rates	48 hours

Aquatic toxicity (chronic)

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

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
n-heptane	142-82-5	EL50	1,6 ^{mg} /l	aquatic inverteb- rates	21 d
n-heptane	142-82-5	EC50	0,23 ^{mg} /l	aquatic inverteb- rates	21 d

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12.2 Process of degradability

Data are not available.

Degradability of components of the mixture

Name of sub- stance	CAS No	Process	Degradation rate	Time
n-heptane	142-82-5	oxygen depletion	70 %	10 d

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of sub- stance	CAS No	BCF	Log KOW	BOD5/COD
n-heptane	142-82-5	552	4,5	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment Data are not available.

12.6 Other adverse effects

Strongly hazardous to water.

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. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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.

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SEC	TION 14: Transport information		
14.1	UN number	1206	
14.2	UN proper shipping name	HEPTANES	
	Hazardous ingredients	Light naphtha-hydrotreated, N-heptane	
14.3	Transport hazard class(es)		
	Class	3 (flammable liquids)	
14.4	Packing group	II (substance presenting medium danger)	
14.5	Environmental hazards	hazardous to the aquatic environment (Light naphtha-hydrotreated)	
14.6 14.7	Provisions for dangerous goods (ADR) should be complied within the premises.		
14.8	Information for each of the UN Model Regulations		
	• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)		
	UN number	1206	
	Proper shipping name	HEPTANES	
	Particulars in the transport document	UN1206, HEPTANES, 3, II, (D/E), environmentally hazardous	
	Class	3	
	Classification code	F1	
	Packing group	II	
	Danger label(s)	3 + "fish and tree"	
	Environmental hazards	yes (hazardous to the aquatic environment)	
	Excepted quantities (EQ)	E2	
	Limited quantities (LQ)	1 L	
	Transport category (TC)	2	
	Tunnel restriction code (TRC)	D/E	
	Hazard identification No	33	
	Emergency Action Code	3YE	

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• International Maritime Dangerous Goods Code (IMDG)		
UN number	1206	
Proper shipping name	HEPTANES	
Particulars in the shipper's declaration	UN1206, HEPTANES, (Light naphtha-hydro- treated), 3, II, -5°C c.c., MARINE POLLUTANT	
Class	3	
Marine pollutant	yes (hazardous to the aquatic environment)	
Packing group	II	
Danger label(s)	3 + "fish and tree"	
Special provisions (SP)	-	
Excepted quantities (EQ)	E2	
Limited quantities (LQ)	1 L	
EmS	F-E, S-D	
Stowage category	В	

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

• Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC) None of the ingredients are listed.

• Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS) None of the ingredients are listed.

- Regulation 850/2004/EC on persistent organic pollutants (POP)
- None of the ingredients are listed.
- Restrictions according to REACH, Annex XVII

None of the ingredients are listed.

• List of substances subject to authorisation (REACH, Annex XIV)

None of the ingredients are listed.

Seveso Directive

2012/18/EU (Seveso III)				
Νο	Dangerous substance/hazard categories	s Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements		
E1	environmental hazards (hazardous to the aquatic en- vironment, cat. 1)	100 200	56)	

Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

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• Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)

VOC content

100 %

• Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content

100 %

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

None of the ingredients are listed.

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Comission Directive establishing a first list of indicative occupational exposure limit values in implementa- tion of Council Directive 98/24/EC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	hazardous to the aquatic environment - acute hazard
Aquatic Chronic	hazardous to the aquatic environment - chronic hazard
Asp. Tox.	aspiration hazard
BCF	BioConcentration Factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	chemical oxygen demand
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EmS	Emergency Schedule
Flam. Liq.	flammable liquid

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Abbr.	Descriptions of used abbreviations
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	indicative occupational exposure limit value
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
STEL	short-term exposure limit
STOT SE	specific target organ toxicity - single exposure
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative
WEL	workplace exposure limit

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- -

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

Code	Text
H225	highly flammable liquid and vapour
H304	may be fatal if swallowed and enters airways
H315	causes skin irritation
H336	may cause drowsiness or dizziness
H400	very toxic to aquatic life
H410	very toxic to aquatic life with long lasting effects
H411	toxic to aquatic life with long lasting effects

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



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Disclaimer

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.