

# n-Heptane

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 03/04/2017

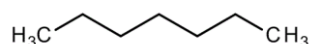
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Substance  
Substance name : n-Heptane  
EC Index-No. : 601-008-00-2  
EC-No. : 205-563-8  
CAS-No. : 142-82-5  
Type of product : Pure substance, Small container  
Formula : C<sub>7</sub>H<sub>16</sub>  
Chemical structure :



Synonyms : Heptanes

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Certified reference material for laboratory use only

##### 1.2.2. Uses advised against

No additional information available

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

ISOLAB GmbH  
Bahnhofstrasse 10, D-97877  
Wertheim - Germany  
T +49 93 42 912 355 - F +49 93 42 912 357  
[prodsafe@isolab.de](mailto:prodsafe@isolab.de)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftsgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225

Skin Irrit. 2 H315

STOT SE 3 H336

Asp. Tox. 1 H304

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

Full text of hazard classes and H-statements : see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

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 (CLP) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P240 - Ground/bond container and receiving equipment.  
P273 - Avoid release to the environment.  
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name	Product identifier	%
n-Heptane	(CAS-No.) 142-82-5 (EC-No.) 205-563-8 (EC Index-No.) 601-008-00-2	100

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not give milk/oil to drink. Give activated charcoal. Call Poison Information Centre ( <a href="http://www.big.be/antigif.htm">www.big.be/antigif.htm</a> ). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

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

Symptoms/effects after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Central nervous system depression. Headache. Nausea. Dizziness. Mental confusion. Behavioural disturbances. Narcosis. Coordination disorders. Disturbances of heart rate. Disturbances of consciousness. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema.
Symptoms/effects after skin contact	: Red skin. Tingling/irritation of the skin.
Symptoms/effects after eye contact	: Irritation of the eye tissue.
Symptoms/effects after ingestion	: Nausea. Gastrointestinal complaints. Risk of aspiration pneumonia. Symptoms similar to those listed under inhalation.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation.

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

No additional information available

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### SECTION 5: Fire-fighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Polyvalent foam. Alcohol-resistant foam. Polymer foam. BC powder. Carbon dioxide.  
Unsuitable extinguishing media : Solid water jet ineffective as extinguishing medium.

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

Fire hazard : DIRECT FIRE HAZARD. Highly flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".  
Explosion hazard : DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

#### 5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.  
Firefighting instructions : If exposed to fire cool the closed containers by spraying with water. Do not move the load if exposed to heat. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.  
Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. See "Material-Handling" to select protective clothing.  
Emergency procedures : Mark the danger area. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Wash contaminated clothes.

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

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

For containment : Contain leaking substance. Consult "Material-handling" to select material of containers. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain.  
Methods for cleaning up : Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Do not discharge the waste into the drain. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Take precautions against electrostatic charges. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage temperature : 15 - 25 °C  
Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.  
Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens. peroxides.  
Storage area : Store in a cool area. Store in a dry area. Keep out of direct sunlight. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Store only in a limited quantity. Meet the legal requirements.  
Special rules on packaging : SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

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Packaging materials

: SUITABLE MATERIAL: steel. stainless steel. aluminium. iron. copper. bronze. polyethylene. polypropylene. glass.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

n-Heptane (142-82-5)		
EU	Local name	n-Heptane
EU	IOELV TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	500 ppm
Austria	Local name	n-Heptan
Austria	MAK (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
Austria	MAK (ppm)	500 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	8000 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	2000 ppm
Belgium	Local name	n-Heptane # n-Heptaan
Belgium	Limit value (mg/m <sup>3</sup> )	1664 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	400 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	500 ppm
Bulgaria	Local name	n-Хептан
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	1600 mg/m <sup>3</sup>
Bulgaria	Notes	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia	Local name	n-Heptan
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	500 ppm
Croatia	Naznake (HR)	EU* (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2000/39/ EC (prva lista)); F (lako zapaljivo); Xn (Štetno)
Czech Republic	Local name	n-Heptan
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	1000 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	240 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	490 ppm
Denmark	Local name	n-Heptan
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	820 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	200 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi)
Estonia	Local name	n-heptaan
Estonia	OEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	500 ppm
Finland	Local name	n-Heptaan
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	300 ppm
Finland	HTP-arvo (15 min)	2100 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	500 ppm
France	Local name	n-Heptane
France	VME (mg/m <sup>3</sup> )	1668 mg/m <sup>3</sup>
France	VME (ppm)	400 ppm
France	VLE (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>

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France	VLE (ppm)	500 ppm
France	Note (FR)	Valeurs réglementaires contraignantes
Gibraltar	Eight hours mg/m <sup>3</sup>	2085 mg/m <sup>3</sup>
Gibraltar	Eight hours ppm	500 ppm
Gibraltar	Name of agent	n-Heptane
Greece	OEL TWA (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	500 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	500 ppm
Hungary	Local name	n-HEPTÁN
Hungary	AK-érték	2000 mg/m <sup>3</sup>
Hungary	CK-érték	8000 mg/m <sup>3</sup>
Hungary	Megjegyzések (HU)	EU1
Ireland	Local name	n-Heptane
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	500 ppm
Ireland	Notes (IE)	IOELV
Italy	Local name	Eptano, n-
Italy	OEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	500 ppm
Latvia	Local name	n-Heptāns
Latvia	OEL TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	85 ppm
Latvia	OEL STEL (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Latvia	OEL STEL (ppm)	500 ppm
Lithuania	Local name	n-heptanas
Lithuania	IPRV (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	500 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	3128 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	750 ppm
Luxembourg	Local name	n-Heptane
Luxembourg	OEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Luxembourg	OEL TWA (ppm)	500 ppm
Malta	Local name	n-Heptane
Malta	OEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	500 ppm
Netherlands	Local name	n-Heptaan
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 8H (ppm)	288 ppm (n-Heptaan; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	1600 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (ppm)	384 ppm (n-Heptaan; Netherlands; Short time value; Public occupational exposure limit value)
Poland	Local name	Heptan (n-heptan)
Poland	NDS (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
Portugal	Local name	Heptano, todos os isómeros (n-Heptano )
Portugal	OEL TWA (ppm)	400 ppm
Portugal	OEL STEL (ppm)	500 ppm
Romania	Local name	Heptan (n)
Romania	OEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>

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<b>n-Heptane (142-82-5)</b>		
Romania	OEL TWA (ppm)	500 ppm
Slovakia	Local name	n-Heptán
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	500 ppm
Slovenia	Local name	heptan (vse izomere)
Slovenia	OEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	500 ppm
Spain	Local name	n-Heptano
Spain	VLA-ED (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	500 ppm
Spain	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	n-Heptan och andra heptaner
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	800 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	200 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	300 ppm
Sweden	Anmärkning (SE)	V (Vägledande kortidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
United Kingdom	Local name	n-Heptane
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	500 ppm
Iceland	Local name	n- Heptan
Iceland	OEL (8 hours ref) (mg/m <sup>3</sup> )	820 mg/m <sup>3</sup>
Iceland	OEL (8 hours ref) (ppm)	200 ppm
Norway	Local name	Heptan
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	800 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	200 ppm
Norway	Merknader (NO)	E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Heptan(alle Isomeren) n-Heptan
Switzerland	VME (mg/m <sup>3</sup> )	1600 mg/m <sup>3</sup>
Switzerland	VME (ppm)	400 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	1600 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	400 ppm
Switzerland	Remark (CH)	ZNS, OAW <sup>KT AN</sup> - NIOSH
Turkey	Local name	n-Heptan
Turkey	OEL TWA (mg/m <sup>3</sup> )	2085 mg/m <sup>3</sup>
Turkey	OEL TWA (ppm)	500 ppm
Australia	Local name	Heptane (n-Heptane)
Australia	TWA (mg/m <sup>3</sup> )	1640 mg/m <sup>3</sup>
Australia	TWA (ppm)	400 ppm
Australia	STEL (mg/m <sup>3</sup> )	2050 mg/m <sup>3</sup>
Australia	STEL (ppm)	500 ppm
USA - ACGIH	Local name	Heptane, all isomers
USA - ACGIH	ACGIH TWA (ppm)	400 ppm

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n-Heptane (142-82-5)		
USA - OSHA	Local name	Heptane (n-Heptane)
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	500 ppm

### 8.2. Exposure controls

#### Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available

#### Hand protection:

Gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Head/neck protection. Protective clothing

#### Respiratory protection:

Wear gas mask with filter type A if conc. in air > exposure limit

Device	Filter type	Condition	Standard
Gas mask	Type A - High-boiling (>65 °C) organic compounds	If conc. in air > exposure limit	



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 100.2 g/mol
Colour	: Colourless.
Odour	: Petroleum-like odour. Almost odourless.
Odour threshold	: 230 - 330 ppm 943 - 1353 mg/m <sup>3</sup>
pH	: No data available
Relative evaporation rate (butylacetate=1)	: 5
Relative evaporation rate (ether=1)	: 2.3
Melting point	: -90.5 °C
Freezing point	: No data available
Boiling point	: 97 - 98 °C (1013 hPa)
Flash point	: -4 °C
Critical temperature	: 267 °C
Auto-ignition temperature	: 220 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 48 hPa (20 °C)
Vapour pressure at 50 °C	: 190 hPa (50 °C)
Critical pressure	: 27300 hPa
Relative vapour density at 20 °C	: 3.5
Relative density	: 0.7

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Relative density of saturated gas/air mixture	: 1.12
Density	: 680 kg/m <sup>3</sup>
Solubility	: Insoluble in water. Substance floats in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in tetrachloromethane. Soluble in petroleum spirit. Soluble in oils/fats. Water: < 0.1 g/100ml Ethanol: soluble Ether: Complete Acetone: Complete
Log Pow	: 4.66 (Experimental value)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.0004 Pa.s (20 °C)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1 - 7 %(V)

### 9.2. Other information

Minimum ignition energy	: 0.24 mJ
Specific conductivity	: 6.6 pS/m
Saturation concentration	: 215 g/m <sup>3</sup>
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Volatile. Substance has neutral reaction. May generate electrostatic charges.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Upon combustion: CO and CO<sub>2</sub> are formed. Reacts violently with (strong) oxidizers: (increased) risk of fire.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

n-Heptane (142-82-5)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.



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### SECTION 12: Ecological information

#### 12.1. Toxicity

- Ecology - general : Dangerous for the environment.
- Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/l.
- Ecology - water : Fouling to shoreline. Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Very toxic to invertebrates.

n-Heptane (142-82-5)	
LC50 fish 1	375 mg/l (LC50; 96 h; Tilapia mossambica)
EC50 Daphnia 1	0.2 mg/l (EC50; 48 h; Chaetogammarus marinus)
Threshold limit algae 2	1.5 mg/l (EC50; 8 h; Algae)

#### 12.2. Persistence and degradability

n-Heptane (142-82-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradability in soil: no data available. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	1.92 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.06 g O <sub>2</sub> /g substance
ThOD	3.52 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.545 (5 days)

#### 12.3. Bioaccumulative potential

n-Heptane (142-82-5)	
Log Pow	4.66 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).

#### 12.4. Mobility in soil

n-Heptane (142-82-5)	
Surface tension	0.0203 N/m (20 °C)

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

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Incinerate under surveillance with energy recovery.
- Additional information : LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.
- European List of Waste (LoW) code : 16 05 06\* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
1206	1206	1206	1206	1206
<b>14.2. UN proper shipping name</b>				
HEPTANES	HEPTANES	Heptanes	HEPTANES	HEPTANES
<b>Transport document description</b>				
UN 1206 HEPTANES, 3, II, (D/E), ENVIRONMENTALLY	UN 1206 HEPTANES, 3, II, MARINE POLLUTANT/ENVIRONM	UN 1206 Heptanes, 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1206 HEPTANES, 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1206 HEPTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

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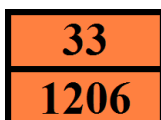


ADR	IMDG	IATA	ADN	RID
HAZARDOUS	ENTALLY HAZARDOUS			
<b>14.3. Transport hazard class(es)</b>				
3	3	3	3	3
<b>14.4. Packing group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : F1  
 Limited quantities (ADR) : 1I  
 Excepted quantities (ADR) : E2  
 Packing instructions (ADR) : P001, IBC02, R001  
 Mixed packing provisions (ADR) : MP19  
 Portable tank and bulk container instructions (ADR) : T4  
 Portable tank and bulk container special provisions (ADR) : TP1  
 Tank code (ADR) : LGBF  
 Vehicle for tank carriage : FL  
 Transport category (ADR) : 2  
 Special provisions for carriage - Operation (ADR) : S2, S20  
 Hazard identification number (Kemler No.) : 33  
 Orange plates :



Tunnel restriction code (ADR) : D/E  
 EAC code : 3YE

#### - Transport by sea

Transport regulations (IMDG) : Subject  
 Limited quantities (IMDG) : 1 L  
 Excepted quantities (IMDG) : E2  
 Packing instructions (IMDG) : P001  
 IBC packing instructions (IMDG) : IBC02  
 Tank instructions (IMDG) : T4  
 Tank special provisions (IMDG) : TP1  
 EmS-No. (Fire) : F-E  
 EmS-No. (Spillage) : S-D  
 Stowage category (IMDG) : B  
 Properties and observations (IMDG) : Colourless, volatile liquids. Explosive limits: 1.1% to 6.7% n-HEPTANE: flashpoint -4°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.  
 MFAG-No : 128

#### - Air transport

Transport regulations (IATA) : Subject to the provisions

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PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
ERG code (IATA)	: 3H

### - Inland waterway transport

Classification code (ADN)	: F1
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

### - Rail transport

Transport regulations (RID)	: Subject
Classification code (RID)	: F1
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1
Tank codes for RID tanks (RID)	: LGBF
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 33

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

n-Heptane is not on the REACH Candidate List

n-Heptane is not on the REACH Annex XIV List

VOC content : 100 %

#### 15.1.2. National regulations

##### Germany

VwVwS Annex reference : Water hazard class (WGK) 2, hazard to waters (KBwS-Beschluss; ID No. 120)

WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

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NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
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

SDS ISOLAB

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*