

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 12.01.2015

Version number 51

Revision: 12.01.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** *n-Heptane***Article number:** 8085**CAS Number:**

142-82-5

EC number:

205-563-8

Index number:

601-008-00-2

Registration number 01-2119457603-38-XXXX**1.2 Relevant identified uses of the substance or mixture and uses advised against****Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

Process category

PROC1 Use in closed process, no likelihood of exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

Environmental release category

ERC1 Manufacture of substances

ERC2 Formulation of preparations

ERC3 Formulation in materials

ERC4 Industrial use of processing aids in processes and products, not becoming part of articles

ERC5 Industrial use resulting in inclusion into or onto a matrix

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6b Industrial use of reactive processing aids

ERC6c Industrial use of monomers for manufacture of thermo-plastics

ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC7 Industrial use of substances in closed systems

Application of the substance / the mixture

: For Laboratory, Research or Manufacturing use.

Manufacture of substance - Industrial

Distribution of substance - Industrial

Formulation & (re)packing of substances and mixtures - Industrial

Use in Cleaning Agents - Industrial

Use in Cleaning Agents - Professional

Use as a Fuel - Industrial

Use as a Fuel - Professional

Use as a Fuel - Consumer

Use in Laboratories - Industrial

Use in Laboratories - Professional

Use in Agrochemicals - Professional

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Avantor Performance Materials B.V.

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7400 AA Deventer

The Netherlands

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(Contd. on page 2)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 12.01.2015

Version number 51

Revision: 12.01.2015

Trade name: n-Heptane

(Contd. of page 1)

· **Informing department:**

E-mail : pawel.skiba@avantormaterials.com

Avantor Performance Materials Sales Office Tel.: +31(0) 570 687500

· **1.4 Emergency telephone number:**

Environment Health & Safety department

during normal opening times (8 am till 5.30 pm) tel: (+31)(0) 570 687500

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**· **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

Xi; Irritant

R38: Irritating to skin.

F; Highly flammable

R11: Highly flammable.

N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment: Has a narcotising effect.**· **2.2 Label elements**· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**

GHS02

GHS07

GHS08

GHS09

· **Signal word** Danger· **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H410 Very toxic to aquatic life with long lasting effects.

· **2.3 Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

GB

(Contd. on page 3)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 12.01.2015

Version number 51

Revision: 12.01.2015

Trade name: n-Heptane

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Designation:**
142-82-5 n-Heptane
- **Identification number(s):**
- **EC number:** 205-563-8
- **Index number:** 601-008-00-2

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation** In case of unconsciousness bring patient into stable side position for transport.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** In case of persistent symptoms consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or water bodies.
Prevent material from reaching sewage system, holes and cellars.
Inform respective authorities in case product reaches water or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions necessary if used correctly.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

(Contd. on page 4)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 12.01.2015

Version number 51

Revision: 12.01.2015

Trade name: n-Heptane

(Contd. of page 3)

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

- **Components with critical values that require monitoring at the workplace:**

142-82-5 n-Heptane

WEL Long-term value: 2085 mg/m³, 500 ppm

- **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Personal protective equipment

· General protective and hygienic measures

- Keep away from foodstuffs, beverages and food.
- Instantly remove any soiled and impregnated garments.
- Wash hands during breaks and at the end of the work.
- Avoid contact with the skin.
- Avoid contact with the eyes and skin.

- **Breathing equipment:** Breathing protection recommended.

· Protection of hands:

- Protective gloves.
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

- Nitrile rubber, NBR
- PVA gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Tightly sealed safety glasses.

- **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

- | | |
|---------------------------|------------------|
| · Form: | Fluid |
| · Colour: | Colourless |
| · Smell: | Nearly odourless |
| · Odour threshold: | Not determined. |

(Contd. on page 5)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 12.01.2015

Version number 51

Revision: 12.01.2015

Trade name: n-Heptane

(Contd. of page 4)

· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	-90.5 °C
Boiling point/Boiling range:	98 °C
· Flash point:	-4 °C
· Inflammability (solid, gaseous)	Not applicable.
· Ignition temperature:	215 °C
· Decomposition temperature:	Not determined.
· Self-inflammability:	Not determined.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
· Critical values for explosion:	
Lower:	1.1 Vol %
Upper:	6.7 Vol %
· Steam pressure at 20 °C:	48 hPa
· Density at 20 °C	0.68 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water at 20 °C:	0.05 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic at 20 °C:	0.4 mPas
kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heat, boiling temperatures.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
- Oral LD50 >15000 mg/kg (rat)
- **Primary irritant effect:**
- **on the skin:** Irritant for skin and mucous membranes.
- **on the eye:** No irritant effect.
- **Sensitisation:** No sensitizing effect known.

GB
(Contd. on page 6)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 12.01.2015

Version number 51

Revision: 12.01.2015

Trade name: n-Heptane

(Contd. of page 5)

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

LC50	220-2940 mg/l (Orfe, golden (Leuciscus Idus))
LC50/24h	10000 mg/l (Mosquitofish (Gambusia affinis))
LC50/96h	>1000 mg/l (daphnia magna)
TLM fishes / 96h:	>1000 mg/l (Pisces)

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Very toxic for fish

Additional ecological information:

General notes:

Water hazard class (D) 2 (Assessment by list): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.
Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA UN1206

14.2 UN proper shipping name

ADR 1206 HEPTANES
IMDG HEPTANES, MARINE POLLUTANT
IATA HEPTANES

14.3 Transport hazard class(es)

ADR



Class 3 (F1) Flammable liquids.

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31


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Version number 51

Revision: 12.01.2015

Trade name: n-Heptane

(Contd. of page 6)

· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Environmentally hazardous substance, liquid; Marine Pollutant
· Marine pollutant:	Yes (P)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Kemler Number:	33
· EMS Number:	F-E,S-D
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN1206, HEPTANES, 3, II

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07 GHS08 GHS09

- **Signal word** Danger
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.

(Contd. on page 8)

Safety data sheet
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Version number 51

Revision: 12.01.2015

Trade name: n-Heptane

(Contd. of page 7)

H304 May be fatal if swallowed and enters airways.

H410 Very toxic to aquatic life with long lasting effects.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing data specification sheet:** EHS

· **Contact:** Paweł Skiba

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

P: Marine Pollutant

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

· *** Data compared to the previous version altered.**

GB

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31

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Trade name: n-Heptane

(Contd. of page 8)

Annex: Exposure scenario

Short title of the exposure scenario

- *Manufacture of substance - Industrial*
- *Distribution of substance - Industrial*
- *Formulation & (re)packing of substances and mixtures - Industrial*
- *Use in Cleaning Agents - Industrial*
- *Use in Cleaning Agents - Professional*
- *Use as a Fuel - Industrial*
- *Use as a Fuel - Professional*
- *Use as a Fuel - Consumer*
- *Use in Laboratories - Industrial*
- *Use in Laboratories - Professional*
- *Use in Agrochemicals - Professional*

Sector of Use

- *SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites*
- *SU8 Manufacture of bulk, large scale chemicals (including petroleum products)*
- *SU9 Manufacture of fine chemicals*

Process category

- *PROC1 Use in closed process, no likelihood of exposure*
- *PROC2 Use in closed, continuous process with occasional controlled exposure*
- *PROC3 Use in closed batch process (synthesis or formulation)*
- *PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises*
- *PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities*
- *PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities*
- *PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)*
- *PROC15 Use as laboratory reagent*

Environmental release category

- *ERC1 Manufacture of substances*
- *ERC2 Formulation of preparations*
- *ERC3 Formulation in materials*
- *ERC4 Industrial use of processing aids in processes and products, not becoming part of articles*
- *ERC5 Industrial use resulting in inclusion into or onto a matrix*
- *ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)*
- *ERC6b Industrial use of reactive processing aids*
- *ERC6c Industrial use of monomers for manufacture of thermo-plastics*
- *ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers*
- *ERC7 Industrial use of substances in closed systems*

Conditions of use

- *Duration and frequency 8hrs (full working shift).*

Physical parameters

- *Concentration of the substance in the mixture The substance is main component.*

Other operational conditions

- *Other operational conditions affecting worker exposure*

Ensure adequate ventilation, especially in closed rooms.

Risk management measures

Worker protection

- *Organisational protective measures Keep good industrial hygiene.*

Environmental protection measures

Avoid release to the environment. Obtain special instructions / refer to Safety Data Sheet.

Exposure estimation

- **Worker (oral)** *The exposure estimation was carried out in accordance with ECETOC TRA.*