

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 1/17/2024 Revision date: 1/17/2024 Supersedes version of: 2/21/2019 Version: 1.0

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

1.1. Product identifier

Chemical structure

Product form : Substance Trade name : n-Heptan GC EC Index-No. : 601-008-00-2 EC-No. : 205-563-8 CAS-No. : 142-82-5 : 5.0070 Product code

Type of product : Hydrocarbons, aliphatic

Formula C7H16

H H H H H H

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Synonyms : Heptane, Septane

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial

For professional use only

Use of the substance/mixture : Laboratory chemicals

Manufacture of substances

Solvents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

NEUTRON PHARMACHEMICAL CO

11, 3th Floor, Borjsaz Building, Azadi Ave, Tehran, Iran.

T-021-66906732 F-021-66581408 www.neutronco.com info@neutronco.com

1.4. Emergency telephone number

: 125 **Emergency number**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2 H225 Skin corrosion/irritation, Category 2 H315 Specific target organ toxicity - Single exposure, Category 3, H336

H304 Aspiration hazard, Category 1 Hazardous to the aquatic environment – Acute Hazard, H400

Category 1

H410 Hazardous to the aquatic environment - Chronic Hazard,

Category 1

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

Adverse physicochemical, human health and environmental effects

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

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2.2. Label elements

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

Hazard pictograms (CLP)









GHS02

GHS07

GHS08

GHS09

Signal word (CLP)

(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, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 - Avoid release to the environment.

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

P331 - Do NOT induce vomiting.

P501 - Dispose of contents/container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

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

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

First-aid measures after eye contact

First-aid measures after ingestion

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial

respiration if necessary.

First-aid measures after skin contact : If skin irritation occurs: Get medical advice/attention. Rinse skin with water/shower. Take off immediately all contaminated clothing.

: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with

water for several minutes. If eye irritation persists: Get medical advice/attention.

: Rinse mouth out with water. If you feel unwell, seek medical advice. Do not induce vomiting.

Call a physician immediately.

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

Symptoms/effects : May cause drowsiness or dizziness. Symptoms/effects after inhalation : May cause drowsiness or dizziness. Symptoms/effects after skin contact : Causes skin irritation. Irritation.

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Symptoms/effects after eye contact : None under normal conditions.

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. Risk of lung oedema.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2). Water spray. Dry

powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

Explosion hazard : Heating may cause a fire or explosion.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Avoid contact with skin, eyes and clothing. No open flames, no

sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective

equipment as required. For further information refer to section 8: "Exposure

controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Very toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry

into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Clean contaminated surfaces with an excess of

water. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed Precautions for safe handling

- : Not expected to present a significant hazard under anticipated conditions of normal use.
- Avoid contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray.

: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures

Packaging materials

: Ground/bond container and receiving equipment.

Storage conditions

Hygiene measures

- : Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
- : Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):







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8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear a mask

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Colour : Colourless.
Appearance : Clear liquid.
Molecular mass : 100.21 g/mol

Odour : mild odor - gasoline-like.

Odour threshold : Not available
Melting point : Not applicable
Freezing point : -91 °C
Boiling point : 98 °C

Flammability : Highly flammable liquid and vapour.

Lower explosion limit : 1.05 vol %
Upper explosion limit : 6.7 vol %
Flash point : -4 °C
Auto-ignition temperature : 223 °C
Decomposition temperature : Not available pH : Not available Viscosity, kinematic : 0.572 mm²/s

Viscosity, dynamic : 0.389 mPa·s at 20 °C Solubility : Water: Immiscible in water

Partition coefficient n-octanol/water (Log Kow) : Not available

Partition coefficient n-octanol/water (Log Pow) : > 3

Vapour pressure : Not available
Vapour pressure at 50°C : 53.3 hPa at 20°C
Density : 0.68 g/cm³

Relative density : 0.683 - 0.686 at $20 \,^{\circ}\text{C/4} \,^{\circ}\text{C}$

Relative vapour density at 20°C : 3.5

Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions. Heating may cause an explosion. Flammable gas.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. High temperature. Overheating. Open flame. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
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.

n-HEPTANE GC (142-82-5)

Viscosity, kinematic 0.572 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term : Very toxic to aquatic life.

(acute)

Hazardous to the aquatic environment, long-term : Very toxic to aqua

(chronic)

: Very toxic to aquatic life with long lasting effects.

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12.2. Persistence and degradability

n-HEPTANE GC (142-82-5)

Persistence and degradability Rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations. Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Flammable vapours may accumulate in the container. Do not re-use empty containers.

SECTION 14: Transport information

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

14.1. UN number or ID number

 UN-No. (ADR)
 : UN 1206

 UN-No. (IMDG)
 : UN 1206

 UN-No. (IATA)
 : UN 1206

 UN-No. (ADN)
 : UN 1206

 UN-No. (RID)
 : UN 1206

14.2. UN proper shipping name

Proper Shipping Name (ADR) : HEPTANES
Proper Shipping Name (IMDG) : HEPTANES
Proper Shipping Name (IATA) : Heptanes
Proper Shipping Name (ADN) : HEPTANES
Proper Shipping Name (RID) : HEPTANES

Transport document description (ADR) : UN 1206 HEPTANES, 3, II, (D/E)

Transport document description (IMDG) : UN 1206 HEPTANES, 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS

Transport document description (IATA) : UN 1206 Heptanes, 3, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN) : UN 1206 HEPTANES, 3, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID) : UN 1206 HEPTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3

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Danger labels (ADR) 3



IMDG

Transport hazard class(es) (IMDG) : 3

Danger labels (IMDG)



IATA

Transport hazard class(es) (IATA) : 3 Danger labels (IATA)



ADN

Transport hazard class(es) (ADN) 3

Danger labels (ADN)



RID

: 3 Transport hazard class(es) (RID) 3

Danger labels (RID)



14.4. Packing group

Packing group (ADR) : 11 Packing group (IMDG) : 11 Packing group (IATA) : 11 Packing group (ADN) : 11 Packing group (RID) : 11

14.5. Environmental hazards

Dangerous for the environment : Yes : Yes Marine pollutant

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : F1 Limited quantities (ADR) 11 : E2 Excepted quantities (ADR)

: P001, IBC02, R001 Packing instructions (ADR)

Mixed packing provisions (ADR) : MP19 Portable tank and bulk container instructions (ADR) : T4

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Portable tank and bulk container special provisions : TP1

(ADR)

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 :

33 1206

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

Transport by sea

Limited quantities (IMDG) : 1L : E2 Excepted quantities (IMDG) P001 Packing instructions (IMDG) IBC packing instructions (IMDG) IBC02 Tank instructions (IMDG) T4 Tank special provisions (IMDG) TP2 EmS-No. (Fire) : F-E EmS-No. (Spillage) : S-D Stowage category (IMDG) В

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.

Air transport

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 : 364 CAO packing instructions (IATA) 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

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 : TP1

(RID)

Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 33

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	
3(a)	n-HEPTANE GC	
3(b)	n-HEPTANE GC	
3(c)	n-HEPTANE GC	
40.	n-HEPTANE GC	

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Germany

Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling Substances

Hazardous to Waters (AwSV).

Hazardous Incident Ordinance (12. BlmSchV) Is not subject of the Hazardous Incident Ordinance (12. BlmSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed SZW-lijst van mutagene stoffen : The substance is not listed SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed SZW-lijst van reprotoxische stoffen – : The substance is not listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

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

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

Abbreviations and acre	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		
BLV	Biological limit value		
BOD	Biochemical oxygen demand (BOD)		
COD	Chemical oxygen demand (COD)		
DMEL	Derived Minimal Effect level		
DNEL	Derived-No Effect Level		
EC-No.	European Community number		
EC50	Median effective concentration		
EN	European Standard		
IARC	International Agency for Research on Cancer		
IATA	International Air Transport Association		
IMDG	International Maritime Dangerous Goods		
LC50	Median lethal concentration		
LD50	Median lethal dose		
LOAEL	Lowest Observed Adverse Effect Level		
NOAEC	No-Observed Adverse Effect Concentration		
NOAEL	No-Observed Adverse Effect Level		
NOEC	No-Observed Effect Concentration		
OECD	Organisation for Economic Co-operation and Development		
OEL	Occupational Exposure Limit		
PBT	Persistent Bioaccumulative Toxic		
PNEC	Predicted No-Effect Concentration		
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail		
SDS	Safety Data Sheet		
STP	Sewage treatment plant		
ThOD	Theoretical oxygen demand (ThOD)		
TLM	Median Tolerance Limit		
VOC	Volatile Organic Compounds		
CAS-No.	Chemical Abstract Service number		
N.O.S.	Not Otherwise Specified		
vPvB	Very Persistent and Very Bioaccumulative		
ED	Endocrine disrupting properties		

Full text of H- and EUH-statements:	
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1

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Full text of H- and EUH-statements:		
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	
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.	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis	

Safety Data Sheet (SDS), EU

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.