

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

1.1 Product identifier

Product name	n-HEPTANE 99%
CAS-No.	142-82-5
Product code	AH1081, AR1080, CG1080, GP1080, IR1080, LC1080, PC1080, RP1080

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

Identified uses	Chemical for analysis and production
-----------------	--------------------------------------

1.3 Details of the supplier of the safety data sheet

Company	RCI LABSCAN LIMITED. 24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number	(662) 613-7911-4
Fax number	(662) 613-7915

1.4 Emergency Telephone Number

Emergency phone	(662) 613-7911-4
-----------------	------------------

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225
 Skin irritation (Category 2), H315
 Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
 Aspiration hazard (Category 1), H304
 Acute aquatic toxicity (Category 1), H400
 Chronic aquatic toxicity (Category 1), H410
 For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

F	Highly flammable	R11
Xi	Irritant	R38
Xn	Harmful	R65 R67
N	Dangerous for the environment	R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

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 statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing vapors.
P264	Wash hand thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use carbon dioxide, dry chemical or foam for extinction.
P391	Collect spillage.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

2.3 Other hazards None

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms 1-Methyl hexane, n-Dipropylmethane, Heptyl hydride.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
142-82-5	205-563-8	601-008-00-2	CH ₃ (CH ₂) ₅ CH ₃	100.21 g/mol	>99

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Concentration	Classification
n-Heptane		
CAS-No 142-82-5 EC-No 205-563-8 EC-Index-No 601-008-00-2	>99%	Flammable liquids (Category 2), H225 Skin irritation (Category 2), H315 Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336 Aspiration hazard (Category 1), H304 Acute aquatic toxicity (Category 1), H400 Chronic aquatic toxicity (Category 1), H410

Hazardous ingredients according to Directive 1999/45/EC

Component	Concentration	Classification
n-Heptane		
CAS-No 142-82-5 EC-No 205-563-8 EC-Index-No 601-008-00-2	>99%	F, Highly flammable, R11 Xi, Irritant, R38 Xn, Harmful, R65 R67 N, Dangerous for the environment, R50/53

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures**4.1 Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Wash contaminated clothing before reuse. Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

4.3 Indication of any immediate medical attention and special treatment needed

Not Available.

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

Extinguish with carbon dioxide, dry chemical or foam. In the event of fire, cool tanks with water spray.

5.2 Special hazards arising from the substance or mixture

Vapors may form explosive mixture with air. Flash back possible over considerable distance.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

5.4 Further information

Standard procedure for chemical fires. Take measures to prevent electrostatic charging. Prevent firefighting water from entering surface water or groundwater.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

6.3 Methods and materials for containment and cleaning up

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

6.4 Reference to other sections

For disposal see **Section 13**.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed at room temperature in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

Application Area	Health Effects	Exposure	Value
Worker	Long-term Systemic effects	Inhalation	2085 mg/m ³
Worker	Long-term Systemic effects	Skin contact	300 mg/kg Body weight
Consumer	Long-term Systemic effects	Inhalation	477 mg/ m ³
Consumer	Long-term Systemic effects	Ingestion	149 mg/kg Body weight
Consumer	Long-term Systemic effects	Skin contact	149 mg/kg Body weight

Predicted No Effect Concentration (PNEC)

Not available

8.2 Exposure controls

Appropriate engineering controls

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

Individual protection measures (Personal protective equipment, PPE)

Eye/face protection

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from nitrile rubber material.
- Splash contact wears gloves from polychloroprene material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter A (EN 141 or EN 14387).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: From	Liquid
: Color	Colorless
Odour	Characteristic
Odour Threshold	Not Available
pH	Not Available
Melting point/range	-90.5°C
Boiling point/range	97-98 °C at 1013 hPa
Flash point	-4 °C (closed cup)
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	1 %(V)
upper	7 %(V)
Vapour Pressure	48 hPa at 20°C
Relative vapour density	3.46
Density	0.680 g/ml at 20°C
Water solubility	0.05 g/l at 20°C
Partition coefficient (n-octanol/water)	log Pow: 4.66
Auto-Ignition temperature	215 °C
Decomposition Temperature	Not Available
Viscosity	0.42 mPa.s at 20°C
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing

SECTION 10: Stability and reactivity

10.1 Reactivity

Heat-sensitive. Explosible with air in a vaporous/gaseous state.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

The substance can react dangerously with strong oxidizing agents, phosphorus + chlorine.

The substance forms an explosive mixture with air.

10.4 Conditions to avoid

Heat, Flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents. Unsuitable working materials: Various plastics, rubber

10.6 Hazardous decomposition products

Carbon monoxides, Carbon dioxides, (Hazardous decomposition products from under fire condition).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LC₅₀ (inhalation, rat): 103 g/m³/4h.

LD₅₀ (oral, rat): >2000 mg/kg.

Acute oral toxicity

Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract, drowsiness, dizziness, unconsciousness, narcosis, death. Respiratory arrest

Acute inhalation toxicity

Irritation symptoms in the respiratory tract, drowsiness.

Skin corrosion/irritation

Irritations. Degreasing effect on the skin, possibly followed by secondary inflammation.

Serious eye damage/eye irritation

Slight irritations.

Respiratory or skin sensitization

Not Available

Germ cell mutagenicity

Bacterial mutagenicity Ames test is negative.

No indication of mutagenic activity.

Carcinogenicity

Not Available

Reproductive toxicity

Animal experiments suggest that the substance may lead to an impairment of reproductive performance also man.

Teratogenicity

Not Available

Specific target organ toxicity (STOT) - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity (STOT) - repeated exposure

Not Available

Aspiration hazard

May cause pneumonia or chemical pneumonitis

Further information

After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting) can

result in a condition resembling pneumonia (chemical pneumonitis). Damage of lungs.
The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC ₅₀ C.auratus : 4 mg/l /24h.
Toxicity to daphnia and other aquatic invertebrates	EC ₅₀ Daphnia magna: 1.5 mg/l/48h.

12.2 Persistence and degradability

Biodegradability 70% /10 d, aerobic. Readily biodegradable.

12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water) log Pow: 4.66 (experiment)
Bioaccumulation potential is to be expected (log Po/w >3)

12.4 Mobility in soil

Not Available

12.5 Other adverse effects

Biological effects: Highly toxic for aquatic organisms. May cause long term adverse effects in the aquatic environment.

Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

SECTION 14: Transport information

Land Transport (ADR/RID)

UN Number	1206
UN proper shipping name	HEPTANES
Transport hazard class(es)	3
Packaging group	II
Environmental hazards	Yes
Special precautions for user	Yes

Sea transport (IMDG)

UN Number	1206
UN proper shipping name	HEPTANES
Transport hazard class(es)	3
Packaging group	II

Marine pollutant	Yes
Special precautions for user	Yes
EmS	F-E S-D

Air transport (IATA)

UN Number	1206
UN proper shipping name	HEPTANES
Transport hazard class(es)	3
Packaging group	II
Environmental hazards	Yes
Special precautions for user	No

River transport (AND/ADNR)

(Not examined)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3**

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.

Full text of R-phrases referred to under sections 2 and 3

F	Highly flammable
Xi	Irritant
Xn	Harmful
N	Dangerous for the environment
R11	Highly flammable.
R38	Irritating to skin.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

Recommended restrictions

Take notice of labels and safety data sheets for the working. Chemicals Take necessary action to avoid static electricity discharge.

Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany,
Source: IFA for Databases on hazardous substances (GESTIS).

Further information

Contact to RCI Labscan Limited.

Revision Date

01/05/2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.