Safety Data Sheet

Section 1 - Identification 2
Section 2: Hazard Identification 2
Section 3: Composition/information on ingredients 4
Section 4: First aid measures 5
Section 5: Firefighting measurers 5
Section 6: Accidental release measurers 7
Section 7: Handling and storage 7
Section 8: Exposure controls – Personal protection 8
Section 9: Physical and chemical properties 10
Section 10: Stability and reactivity 11
Section 11: Toxicological information 12
Section 12: Ecological information 14
Section 13: Disposal considerations 17
Section 14: Transportation information 17
Section 15: Regulatory information 19
Section 16: Other information 20

Section 1 - Identification

1.1 Product Identifier

Product Name	:	N-Heptane
CAS No.	:	142-85-5

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

Identified uses	:	Reagent for analysis, Chemical production

1.3 Details of the supplier of the safety data sheet

Company	:	9920 Pacific Heights Blvd Suit 150 San Diego California -92121

1.4 Emergency Telephone number

Emergency phone	:	+1 (858) 245-0283

Section 2: Hazard Identification

2.1 Classification of the substance or the mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids	Category 2	H225:Highly flammable liquid and vapour.
Skin irritation	Category 2	H315:Causes skin irritation.
Specific target organ toxicity -single exposure	Category 3	H336:May cause drowsiness or dizziness.
Aspiration hazard	Category 1	H304:May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard	Category 1	H400:Very toxic to aquatic life.
Long-term (chronic) aquatic	Category 1	H410:Very toxic to aquatic life

hazard	with long lasting effects.

2.2 Label elements

Label according Regulation (EC) 1272/2008

Hazard Pictogram

Signal Word:
DANGER

Hazard statements

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

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks,open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/eye protection/ face protection.

Response:

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P331	Do NOT induce vomiting.

Reduced Labelling (<= 125 ml)

Hazard Pictogram

Signal Word:
DANGER

Hazard statements

H304	May be fatal if swallowed and enters airways.

Precautionary Statements

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331	Do NOT induce vomiting.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 3: Composition/information on ingredients

3.1 Substance

EC-No.	:	205-563-8
Index-No.	:	601-008-00-2

Section 4: First aid measures

4.1 Description of first aid measures

General advice
Show this safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact
After eye contact: rinse out with plenty of water.Call in ophthalmologist.Remove contact lenses.

If swallowed
After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free.Pulmonary failure possible after aspiration of vomit.Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indications of any immediate medical attention and special treatment needed

No data available

Section 5: Firefighting measurers

5.1 Extinguishing Media

Suitable extinguishing media	:	Foam Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazard arising from the substance or mixture

Specific hazards during fire fighting	:	Combustible. Pay attention to flashback. Vapours are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
Hazardous combustion products	:	Carbon oxides

5.3 Advice for firefighters

Special protective equipment for fire-fighters	:	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	:	Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental release measurers

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions:
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environment precautions

Environmental precautions : Do not let product enter drains.Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).
Take up carefully with liquid-absorbent material (e.g.Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal considerations see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Storage class (TRGS 510)
3, Flammable liquids

Further information on storage stability
Recommended storage temperature see product label.

Recommended storage temperature
Recommended storage temperature see product label.

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

Occupational Exposure Limits
Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
	Worker DNEL, longterm	Inhalation	Systemic effects	2085 mg/m3
	Worker DNEL, longterm	Dermal	Systemic effects	300 mg/kg
	Consumer DNEL, longterm	Inhalation	Systemic effects	447 mg/m3
	Consumer DNEL, longterm	Dermal	Systemic effects	149 mg/kg
	Consumer DNEL, longterm	Oral	Systemic effects	149 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
	No data available	

8.2 Exposure Controls

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection	:	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Hand protection		
Material	:	Nitrile rubber
Break through time	:	480 min
Glove thickness	:	0,4 mm
Protective index	:	Full contact
Manufacturer	:	Camatril® (KCL 730 / Aldrich Z677442, Size M)
Material	:	Nitrile rubber
Break through time	:	60 min
Glove thickness	:	0,2 mm
Protective index	:	Splash contact
Manufacturer	:	Dermatril® P (KCL 743 / Aldrich Z677388, Size M)
Remarks	:	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Skin and body protection	:	Flame retardant antistatic protective clothing.
Respiratory protection	:	required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387

and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.

Environmental exposure controls

Advice
Do not let product enter drains. Risk of explosion.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid (20 °C, 1.013 hPa)
Color	:	Colourless
Odor	:	Not data available
Melting point/range	:	-91,0 °C
Boiling point/boiling range	:	98,2 °C (1.000 hPa)
Flammability	:	Not data available
Upper explosion limit / Upper flammability limit	:	Upper explosion limit 7 %(V)
Lower explosion limit / Lower flammability limit	:	1,1 %(V)
Flash point	:	-4 °C Method: c.c., closed cup
Autoignition temperature	:	223 °C
Decomposition temperature	:	Not data available

pH	:	Not data available
Viscosity, dynamic	:	Not data available
Viscosity, kinematic	:	0,64 mm2/s (20 °C)
Flow time	:	No data available
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	log Pow: > 3 Bioaccumulation is not expected.
Vapor pressure	:	48 hPa (20,0 °C)
Relative density	:	No data available
Density	:	0,68 g/cm3 (15 °C)
Relative vapour density	:	No data available

9.2 Other information

Explosives	:	Not classified as explosive.
Oxidizing properties	:	none
Burning rate	:	No data available
Self-ignition	:	223,0 °C
Evaporation rate	:	No data available
Molecular weight	:	100,21 g/mol

Section 10: Stability and reactivity

10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Hazardous reactions : Risk of ignition or formation of inflammable gases or vapours with:
Strong oxidizing agents

phosphorus
in the presence of:
Chlorine

10.4 Conditions to avoid

Conditions to avoid
Warming

10.5 Incompatible materials

Materials to avoid
Rubber various plastics

10.6 Hazardous decomposition products

In the event of fire: see section 5

Section 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male and female - > 5.000 mg/kg
(OECD Test Guideline 401)
Remarks: The value is given in analogy to the following substances: isooctane
LC50 Inhalation - Rat - male and female - 4 h - > 29,29 mg/l - vapour

(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male and female - > 2.000 mg/kg

(OECD Test Guideline 402)
Remarks: The value is given in analogy to the following substances: isooctane

Skin corrosion/irritation
Skin - Rabbit
Result: Irritating to skin. - 24 h
(OECD Test Guideline 404)
Remarks: The value is given in analogy to the following substances: isooctane
Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)
Remarks: The value is given in analogy to the following substances: isooctane

Respiratory or skin sensitization
Maximisation Test - Guinea pig
Result: negative
(OECD Test Guideline 406)
Remarks:

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: rat hepatocytes
Method: OECD Test Guideline 473
Result: negative

Carcinogenicity
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness.
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
May be fatal if swallowed and enters airways.
Aspiration hazard, Aspiration may cause pulmonary oedema and pneumonitis.

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Prolonged or repeated exposure to skin causes defatting and dermatitis., Central nervous system depression, narcosis, Damage to the lungs.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological information

12.1 Toxicity

Components:

N-Heptane:

Toxicity to fish	: LL50 (Rainbow darter (Etheostoma caeruleum)): > 13,4 mg/l

		Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,23 mg/l Exposure time: 21 d Test Type: static test Analytical monitoring: yes GLP: yes Remarks: (ECHA) (in analogy to similar products)
Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (green algae)): 29 mg/l End point: Growth inhibition Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes Remarks: (ECHA) NOELR (Pseudokirchneriella subcapitata (green algae)): 6,3 mg/l End point: Growth inhibition Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes Remarks: (ECHA)
M-Factor (Acute aquatic toxicity)	:	1
M-Factor (Chronic aquatic toxicity)	:	1
Ecotoxicology Assessment		
Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Components:

N-Heptane:

Biodegradability	: Test Type: aerobic Concentration: 3,3 mg/l Result: Readily biodegradable. Biodegradation: 70 % Exposure time: 10 d Remarks: (ECHA)
Biochemical Oxygen Demand (BOD)	: 1.920 mg/g Incubation time: 5 d Remarks: (IUCLID)
ThOD	: 3.500 mg/g Remarks: (Lit.)
BOD/ThOD	: 55 % Remarks: (Lit.)

12.3 Bioaccumalated potential

Components:

N-Heptane:

Bioaccumulation	: Remarks: Indication of bioaccumulation.
Partition coefficient: n-octanol/water	: log Pow: > 3 Remarks: Bioaccumulation is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment:-This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

N-Heptane:

Assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Endocrine disrupting properties

Product:

Assessment:-The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Components:

N-Heptane:

Additional ecological information

Do not empty into drains.Avoid release to the environment.

Section 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Section 14: Transportation information

14.1 UN Number or ID number

ADR	UN 1206
IMDG	UN 1206
IATA	UN 1206

14.2 UN proper shipping name

ADR	HEPTANES
IMDG	HEPTANES
IATA	HEPTANES

14.3 Transport hazard class(es)

Class

ADR	3
IMDG	3
IATA	3

Subsidiary risks

ADR	-
IMDG	-
IATA	-

14.4 Packaging group

ADR

Packing group	II
Classification Code	F1
Hazard Identification Number	33
Labels	3
Tunnel restriction code	(D/E)

IMDG

Packing group	II
Labels	3
EmS Code	F-E, S-D

IATA (Cargo)

Packing instruction (cargo aircraft)	364
Packing instruction (LQ)	Y341
Packing group	II
Labels	Class 3 - Flammable liquids

IATA_P (Passenger)

Packing instruction (passenger aircraft)	353
Packing instruction (LQ)	Y341
Packing group	III
Labels	Class 3 - Flammable liquids

14.5 Environmental hazards

ADR

Environmentally hazardous	yes

IMDG

Marine pollutant	yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

Section 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3 Number on list 40 This substance/mixture shall not be used in aerosol dispensers intended for supply to the general public for entertainment and decorative Purposes. Number on list 75 If you intend to use this product

		as tattoo ink, please contact your vendor.
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	N,N-dimethylformamide
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

Section 16: Other information

Full text of H-Statements

H336	May cause drowsiness or dizziness.

Further information

The information and recommendations in this SDS are to the best of our knowledge, information and belief accurate at the time of publication. Although utmost care is been taken in composition of this text, Highpuris LLC cannot be held responsible for any damage resulting from any possible error in this publication.