



Safety Data Sheet

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Section 1 - Identification

1.1 Product Identifier

Product Name : N-Hexane

CAS No. : 110-54-3

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.
Reproductive toxicity	Category 2	H361:Suspected of damaging fertility.
Specific target organ toxicity -single exposure	Category 3	H336:May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure	Category 1	H372:Causes damage to organs through prolonged or repeated exposure if inhaled.

Aspiration hazard

Category 1

H304:May be fatal if swallowed and enters airways.

Long-term (chronic) aquatic hazard

Category 2

H411:Toxic to aquatic life 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.

H361f

Suspected of damaging fertility.

H372

Causes damage to organs (Nervous system) through prolonged or repeated exposure if inhaled.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P202

Do not handle until all safety precautions have been read and understood.

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P273

Avoid release to the environment.

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.
P311	Do NOT induce vomiting.

Reduced Labelling (<= 125 ml)

Hazard Pictogram



Signal Word:
DANGER

Hazard statements

H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H304	May be fatal if swallowed and enters airways.
H361f	Suspected of damaging fertility.

Precautionary Statements

P202	Do not handle until all safety precautions have been read and understood.
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. : 203-777-6
Index-No. : 601-037-00-0

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. Consult a physician.

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 measures

5.1 Extinguishing Media

Suitable extinguishing media	: Carbon dioxide (CO ₂) Foam 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 measures

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. Chemisorb®). 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. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class (TRGS 510)

3, Flammable liquids

Further information on storage stability

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
N-Hexane	Worker DNEL,	Inhalation	Systemic effects	75 mg/m ³

	longterm			
	Worker DNEL, longterm	Dermal	Systemic effects	16 mg/kg
	Consumer DNEL, longterm	Dermal	Systemic effects	5,3 mg/kg
	Consumer DNEL, longterm	Oral	Systemic effects	4 mg/kg

8.2 Exposure Controls

Personal protective equipment

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 : 10 min
Glove thickness : 0,11 mm
Protective index : Splash contact
Manufacturer : KCL 741 Dermatril® L
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 : Filter A (acc. to DIN 3181) for vapours of organic compounds

type:

The entrepreneur 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
Color	: Colourless
Odor	: hydrocarbon-like
Melting point/range	: -95,35 °C (1.013 hPa)
Boiling point/boiling range	: 69 °C (1.013 hPa)
Flammability	: Not data available
Upper explosion limit / Upper flammability limit	: Upper explosion limit 8,1 %(V)
Lower explosion limit / Lower flammability limit	: Lower explosion limit 1,0 %(V)
Flash point	: -22 °C(1.013 hPa) Method: c.c., closed cup
Autoignition temperature	: 225 °C (1.013 hPa)

Decomposition temperature	: Not data available
pH	: 7,0
Viscosity, dynamic	: 0,3 mPa.s (25 °C)
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	: 0,01 g/l (25 °C)
Water solubility	pH: 7 slightly soluble
Partition coefficient: n-octanol/water	: log Pow: ca. 4 (20 °C) Method: (experimental) (Lit.) Potential bioaccumulation
Vapor pressure	: 175,98 hPa (20,0 °C)
Relative density	: No data available
Density	: 0,66 g/cm ³ (25 °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	: 225,0 °C 1.013 hPa
Evaporation rate	: 15,8
Molecular weight	: 86,18 g/mol

Section 10: Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

Vapours may form explosive mixture with air.

10.2 Chemical stability

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

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

10.3 Possibility of hazardous reactions

Hazardous reactions

: Risk of explosion with:

Violent reactions possible with:

Strong oxidizing agents

nitrogen oxides

halogens

rubber

various plastics

Risk of ignition or formation of inflammable gases or vapours with:

Peroxides

(sodium salt)

10.4 Conditions to avoid

Conditions to avoid

Warming.

10.5 Incompatible materials

No data available

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 - 16.000 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - 4 h - 172 mg/l - vapour

Remarks: (RTECS)

LD50 Dermal - Rabbit - male - > 2.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit
Result: Skin irritation - 24 h
(OECD Test Guideline 404)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation

Eyes - Rabbit
Result: No eye irritation - 72 h
(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: dominant lethal test
Species: Mouse

Application Route: inhalation (vapour)
Method: OECD Test Guideline 478
Result: negative

Test Type: Chromosome aberration test
Species: Rat
Cell type: Bone marrow
Application Route: Gavage
Method: OECD Test Guideline 475
Result: negative

Carcinogenicity

No data available

Reproductive toxicity

Suspected of damaging fertility.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. - Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

Inhalation - Causes damage to organs through prolonged or repeated exposure.

- Nervous system

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.

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - No observed adverse effect level - 40 mg/kg - Lowest observed adverse effect level - 200 mg/kg

Drowsiness, irritant effects, somnolence
narcosis, Nausea, Tiredness, CNS disorders, paralysis symptoms
Risk of corneal clouding.

It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis. 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-Hexane:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 2,5 mg/l Exposure time: 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 2,1 mg/l Exposure time: 48 h Remarks: (Lit.)

12.2 Persistence and degradability

Components:

N-Hexane:

Biodegradability

: Test Type: aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes
Remarks: (in analogy to similar products)

12.3 Bioaccumulated potential

Components:

N-Hexane:

Partition coefficient: n-
octanol/water

: log Pow: ca. 4 (20 °C)
Method: (experimental)
Remarks: (Lit.)
Potential bioaccumulation

12.4 Mobility in soil

Components:

N-Hexane:

Stability in soil : Remarks: 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-Hexane:

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

No data available

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 1208
IMDG	UN 1208
IATA	UN 1208

14.2 UN proper shipping name

ADR	HEXANES
IMDG	HEXANES
IATA	HEXANES

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 II

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

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-Hexane

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.
H373	May cause damage to organs through prolonged or repeated exposure.

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.