

SAFETY DATA SHEET

1. Identification

Product Name N-HEPTANE

Cat No. : AC610361000

CAS No 142-82-5

Synonyms Normal heptane.; Heptane

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids Category 2

Skin Corrosion/Irritation Category 2 Serious Eye Damage/Eye Irritation Category 2 Specific target organ toxicity (single exposure) Category 3 Target Organs - Central nervous system (CNS).

Specific target organ toxicity - (repeated exposure) Category 2 Target Organs - Kidney, Liver, Blood.

Aspiration Toxicity Category 1

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor

May cause drowsiness or dizziness

May be fatal if swallowed and enters airways

Causes skin irritation

Causes serious eye irritation

May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Use only non-sparking tools
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Take precautionary measures against static discharge
Keep cool

Response

Get medical attention/advice if you feel unwell

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower If skin irritation occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing if eye irritation persists: Get medical advice/attention

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

Component	CAS No	Weight %
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n-Heptane	142-82-5	>95
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4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

Inhalation Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention. Risk of

Serious damage to the lungs (by aspiration). If not breathing, give artificial respiration.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like

Most important symptoms and effects

headache, dizziness, tiredness, nausea and vomiting

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media Water may be ineffective

Flash Point -4 °C / 24.8 °F

Method - No information available

Autoignition Temperature 215 °C / 419 °F

Explosion Limits

Upper 6.7 vol %

Lower 1.05 vol %

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flashback. Containers may explode when heated. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health

Flammability

**Instability
Physical hazards**

3

3

0

N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

Environmental Precautions Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Remove all sources of ignition. Soak up with inert absorbent material. Use spark-proof tools

Methods for Containment and Clean Up

and explosion-proof equipment. Take precautionary measures

against static discharges. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Use only under a chemical fume hood. Wear personal protective equipment/faceprotection. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. Wash hands before breaks and immediately after handling the product. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area. Incompatible Materials. Strong oxidizing agents.

8. Exposure controls / p

chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure. **Respiratory Protection** No

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL
n-Heptane	TWA: 400 ppm STEL: 500 ppm	(Vacated) TLV ppm (Vacated) 160 (Vacated) STEL ppm (Vacated) 2000 2000mg/m TWA: 500 pp TWA: 2000 mg

protective equipment is needed under normal use conditions. Handle in accordance with good industrial hygiene and safety practice.

Hygiene Measures

9. Physical and chem

Physical State Liquid

Appearance Colorless

Odor Petroleum distillates **Odor Threshold** No information available

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures None under normal use conditions.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or

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pH No information available **Melting Point/Range** -91 °C / -131.8 °F **Boiling Point/Range** 98 °C / 208.4 °F
Flash Point -4 °C / 24.8 °F **Evaporation Rate** 2.8 (Butyl Acetate = 1.0) **Flammability (solid,gas)** Not applicable

Flammability or explosive limits

Upper 6.7 vol % **Lower** 1.05 vol % **Vapor Pressure** 48 mbar @ 20 °C **Vapor Density** 3.5

Specific Gravity 0.683

Solubility Insoluble in water

Partition coefficient; n-octanol/water No data available **Autoignition Temperature** 215 °C / 419 °F

Decomposition Temperature No information available **Viscosity** 0.4 mPa s at 20 °C **Molecular Formula** C7 H16

Molecular Weight 100.20

10. Stability and reactivity

Reactive Hazard None known, based on information available **Stability** Stable under normal conditions.

Conditions to Avoid Incompatible products. Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
n-Heptane	>2000 mg/kg (rat)	LD50 = 3000 mg/kg (Rabbit)	LC50 > 73.5 mg/L (Rat) 4 h

No information available

Toxicologically Synergistic Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as acarcinogen.

Component	CAS No	IARC	NT	ACGIH	OSHA	Mexico
n-Heptane	142-82-5	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

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Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)

STOT - repeated exposure Kidney Liver Blood

Aspiration hazard Aspiration hazard

Symptoms / effects, both acute and delayed

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
n-Heptane	Not listed	LC50: = 375.0 mg/L, 96h (Cichlid fish)	Not listed	EC50: >10 mg/L/24h

Persistence and Degradability Persistence is unlikely

Bioaccumulation/ Accumulation No information available.

Mobility The product is insoluble and floats on water. Is not likely mobile in the environment due its low water solubility.

Component	log Pow
n-Heptane	4.66

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1206
Proper Shipping Name HEPTANES
Hazard Class 3
Packing Group II

TDG

UN-No UN1206
Proper Shipping Name HEPTANES
Hazard Class 3
Packing Group II

IATA

UN-No UN1206
Proper Shipping Name Heptanes
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No UN1206

Hazard Class 3
Packing Group II

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA RegulatoryFlags
n-Heptane	142-82-5	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea(KECL).

Component	CAS No		DSL	NDSL	EINECS	P	E	AIC	IECSCKECL
n-Heptane	142-82-5		X	205-563-					XKE-1827 1

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

Not applicable

OSHA - Occupational Safety and Health Administration

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
n-Heptane	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant Y

DOT Severe Marine Pollutant N

This product does not contain any DHS chemicals.

U.S. Department of Homeland Security**Other International Regulations**

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Mexico - Grade Serious risk, Grade 3**Authorisation/Restrictions according to EU REACH**

Component	REACH (1907/2006) - Annex XIV -Substances Subject to Authorization	REACH (1907/2006) - Annex XVII -Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
n-Heptane	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
n-Heptane	142-82-5	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)

n-Heptane	142-82-5	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Prepared By Regulatory Affairs

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Creation Date 14-Sep-2009

Revision Date 28-Dec-2021

Print Date 28-Dec-2021

Revision Summary This document has been updated to comply with the US OSHA HazCom2012Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

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 a 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

End of SDS