

Safety Data Sheet HEPTANE

SDS no. 65BJ86ZT • Version 1.0 • Date of issue: 2023-08-07

SECTION 1: Identification

GHS Product identifier

Product name HEPTANE

Other means of identification

HEPTANE

n-Heptane,

Dipropylmethane,

n-Dipropylmethane,

1-Methyl hexane

Recommended use of the chemical and restrictions on use

Standard for octane rating determinations (pure n-Heptane has zero octane number), anesthetic, solvent, organic synthesis and laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

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- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1
- Aspiration hazard, Cat. 1
- Flammable liquids, Cat. 2
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity following single exposure, Cat. 3

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H225	Highly flammable liquid and vapor
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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

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Molecular weight: 100.2

Components

Component	CAS no.	Concentration
Heptane (EC no.: 205-563-8; Index no.: 601-008-00-2)	142-82-5	30 - 60 % (volume)
CLASSIFICATIONS: Flammable liquids, Cat. 2; Aspiration hazard, Cat. 1; Skin corrosion/irritation, Cat. 2; Specific target organ toxicity following single exposure, Cat. 3; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H225 - Highly flammable liquid and vapor; 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.		
Naphtha (petroleum), hydrotreated light	64742-49-0	40 - 70 % (volume)
CLASSIFICATIONS: Aspiration hazard, Cat. 1; Flammable liquids, Cat. 2; Hazardous to the aquatic environment, long-term (chronic), Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Skin corrosion/irritation, Cat. 2; Specific target organ toxicity following single exposure, Cat. 3. HAZARDS: H225 - Highly flammable liquid and vapor; H304 - May be fatal if swallowed and enters airways; H315 - Causes skin irritation; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately, avoid becoming a casualty. Make patient comfortable, keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discolouration), supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek immediate medical advice /attention depending on the severity. Remove any contaminated clothing and wash affected area with water then soap and water. If the exposure has been prolonged or severe, seek medical advice.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Personal protective equipment for first-aid responders	This chemical is flammable. Take proper precautions (e.g. remove any sources of ignition).

Most important symptoms/effects, acute and delayed

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

Indication of immediate medical attention and special treatment needed, if necessary

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Caution: Use of water spray when fighting fire may be inefficient.

Small fire: Use foam, dry chemical, carbon dioxide or water spray.

Large fire: Use foam, fog or water spray - Do NOT use water jets.

If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Specific hazards arising from the chemical

Irritating and/or toxic vapours including carbon dioxide and carbon monoxide.

HIGHLY FLAMMABLE: These products have a low flash point. Will be easily ignited by heat, sparks or flames. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Most vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Many liquids are lighter than water. Containers may explode when heated. Fire will produce irritating, poisonous and/or corrosive gases. Vapours from run-off may create an explosion hazard.

Flask back of vapours possible over considerable distance.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing. Remove ignition sources Take precautionary measures against static discharge.

Environmental precautions

Prevent contamination of soil and water. Use appropriate containment to avoid environmental contamination.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 50m. All equipment in handling this product must be earthed. Do NOT touch or walk through this product. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas.

Vapour suppressing foam may be used to control vapours. Water spray may be used to knock down or divert vapours.

Absorb spill with earth, sand or other non-combustible material. Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal.

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

Reference to other sections

Wear protective clothing specified for normal operations (see Section 8)

SECTION 7: Handling and storage

Precautions for safe handling

Avoid inhalation and/or ingestion of vapour/gases/fumes. Avoid contact with skin, eyes and clothing. Wear suitable protective clothing.

Keep container covered and tightly closed when not in use. Keep away from ignition sources. Use only in ventilated areas, in case of insufficient ventilation, wear suitable respiratory equipment. Take precautions against static discharge. All electrical equipment must be flameproofed. Use non-sparking handtools. Earth or bond all equipment.

Conditions for safe storage, including any incompatibilities

Store away from oxidizing agents. Store in well ventilated area. Keep containers closed at all times. Keep away from direct sunlight and other sources of heat or ignition.

Store away from incompatible substances

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 142-82-5 (EC: 205-563-8)

Heptane

AU/SWA (Australia): 500 ppm STEL inhalation; 400 ppm TWA inhalation

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

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

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, colourless volatile liquid.
Color	No data available.
Odor	Characteristic.
Odor threshold	No data available.
Melting point/freezing point	-91 °C

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Boiling point or initial boiling point and boiling range
Flammability
Lower and upper explosion limit/flammability limit

98 °C
HIGHLY FLAMMABLE.
Flammable Limits - Lower: 1.10% Flammable Limits - Upper:
7%

Flash point
Explosive properties
Auto-ignition temperature
Decomposition temperature
Oxidizing properties
pH
Kinematic viscosity
Solubility

-4 °C (closed cup); -1 °C (open cup)
No data available.
~220 °C
No data available.
No data available.
No data available.
No data available.
Solubility in Water: Insoluble in water. Solubility in Organic
Solvents: Soluble in diethyl ether, acetone and alcohol.

Partition coefficient n-octanol/water (log value)
Vapor pressure
Evaporation rate
Density and/or relative density
Relative vapor density
Particle characteristics

Log Pow: 4.66 (experimental)
40.0 mmHg @ 20 °C
No data available.
Specific Gravity: 0.68 (@ 20 °C, water=1)
3.45 (air=1)
No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Sources of ignition (heat, flames and sparks). Exposure to moisture.

Incompatible materials

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

Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

Information on toxicological effects

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Acute toxicity

Acute Toxicity - Inhalation: LC50 (rat): 103 g/m³/4h (RTECS)

Ingestion: Harmful if swallowed. Ingestion of this chemical will result in a gastrointestinal tract irritation, burning sensation of soft tissues, vomiting and diarrhea, drowsiness. Vomiting may induce aspiration into the lungs producing chemical pneumonitis. Symptoms similar to inhalation.

Inhalation: May be harmful if inhaled. Inhalation of vapours causes irritation of mucous membrane of the respiratory tract (nose, throat, lungs). Symptoms include of drowsiness, dizziness, headaches, nausea and possible coma.

Skin corrosion/irritation

Causes mild skin irritations, resulting in redness, inflammation, defatting effect on skin. May be harmful if absorbed through the skin.

Serious eye damage/irritation

Causes irritation to the eye with symptoms of redness and pain.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity (STOT) - single exposure

Specific target organ toxicity - Single Exposure Category 3 (respiratory tract irritation)

Specific target organ toxicity (STOT) - repeated exposure

No data available

Aspiration hazard

Aspiration Hazard: Category 1

Additional information

Chronic Effects: Repeated or prolonged exposure to the skin defats the skin resulting in irritation and dermatitis.

Repeated or prolonged inhalation affects the central and peripheral nervous system with symptoms of numbness and tingling, lung damage, blood disorders, hearing and weight loss.

Repeated or prolonged inhalation affects the liver, circulatory system and urinary system.

SECTION 12: Ecological information

Toxicity

Acute Toxicity - Fish: LC50 (Carassius auratus): 4.00 mg/l/24 h.

Acute Toxicity - Daphnia: EC50 (Daphnia magna): 1.50 mg/l/48 h.

Persistence and degradability

BCF: 340-1000.

Distribution: log P(o/w) > 4.66.

Bioaccumulative potential

Bioaccumulative potential: $\log P(o/w) > 3$.

Other adverse effects

Nonmiscible with water, substance floats on the water surface.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal

Bioaccumulative potential: $\log P(o/w) > 3$.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1206

Class: 3

Packing Group: II

Proper Shipping Name: HEPTANES

Hazchem emergency action code (EAC)

3YE

IMDG

UN Number: 1206

Class: 3

Packing Group: II

EMS Number:

Proper Shipping Name: HEPTANES

IATA

UN Number: 1206

Class: 3

Packing Group: II

Proper Shipping Name: HEPTANES

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)