

Safety Data Sheet PENTANE

SDS no. J7GBPYEU • Version 1.1 • Date of issue: 2023-08-27

SECTION 1: Identification

GHS Product identifier

Product name PENTANE

Recommended use of the chemical and restrictions on use

Artificial ice manufacture, solvent extraction processes, low-temperature thermometers, blowing agent in plastics (e.g. expandable polystyrene), pesticides 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

- Hazardous to the aquatic environment, long-term (chronic), Cat. 2
- Aspiration hazard, Cat. 1
- Flammable liquids, 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
H304
H336
H411

Highly flammable liquid and vapor
May be fatal if swallowed and enters airways
May cause drowsiness or dizziness
Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P210

P233
P240
P241
P242
P243
P261
P271
P273
P280
P301+P310
P303+P361+P353

P304+P340
P331
P370+P378
P403+P233
P403+P235
P501

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof [electrical/ventilating/lighting/...] equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Do NOT induce vomiting.
In case of fire: Use agents recommended in Section 5 of SDS for extinction
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 72.15

Components

Component	CAS no.	Concentration
PENTANE (EC no.: 203-692-4; Index no.: 601-006-00-1)	109-66-0	100 % (volume)
CLASSIFICATIONS: Flammable liquids, Cat. 2; Aspiration hazard, Cat. 1; Specific target organ toxicity following single exposure, Cat. 3; Hazardous to the aquatic environment, long-term (chronic), Cat. 2. HAZARDS: H225 - Highly flammable liquid and vapor; H304 - May be fatal if swallowed and enters airways; H336 - May cause drowsiness or dizziness; H411 - 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.

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If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
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.
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. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

Most important symptoms/effects, acute and delayed

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Pentane can cause significant long-term health effects. Medical advice should be sought following any exposure.

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.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

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

Small fire: Use foam, dry chemical, CO₂ 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 toxic fumes and vapours including of 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.

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

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.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid ingestion and inhalation of material. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use. Use in well ventilated areas away from all ignition sources. In case of insufficient ventilation, wear suitable respiratory equipment. Wash hands and face thoroughly after working with material. Take precautionary measures against static discharges. Earth all equipment

Conditions for safe storage, including any incompatibilities

Store in cool place and out of direct sunlight. Store in well ventilated area. Store away from sources of heat or ignition. Store away from oxidizing agents. Keep containers securely sealed and protected against physical damage.

SECTION 8: Exposure controls/personal protection

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

Hand Protection: Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Clean clothing or protective clothing should be worn, preferably with and 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	Colourless liquid.
Color	No data available.
Odor	Mild gasoline-like odour.
Odor threshold	No data available.
Melting point/freezing point	-130.0 °C
Boiling point or initial boiling point and boiling range	36.0 °C
Flammability	EXTREMELY FLAMMABLE.

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Lower and upper explosion limit/flammability limit

Flammable Limits - Lower: 1.40% Flammable Limits - Upper: 8%

Flash point

-49 °C

Explosive properties

No data available.

Auto-ignition temperature

308 °C

Decomposition temperature

No data available.

Oxidizing properties

No data available.

pH

No data available.

Kinematic viscosity

No data available.

Solubility

Solubility in Water: Insoluble. Solubility in Organic Solvents: Miscible with most organic solvents including chloroform, benzene and ethanol.

Partition coefficient n-octanol/water (log value)

No data available.

Vapor pressure

426 mm Hg @ 20 °C

Evaporation rate

28.6 (butyl acetate = 1)

Density and/or relative density

Specific Gravity: 0.626 g/l

Relative vapor density

2.5 (air=1)

Particle characteristics

No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Other Information: CONVERSION FACTOR: 1 ppm = 2.95 mg/m³; 1 mg/m³ = 0.34 ppm at 25 °C

SECTION 10: Stability and reactivity

Reactivity

Reacts with incompatible materials

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Reaction with strong oxidizing agents may be violent and cause fire and explosion.

Hazardous Polymerization: Will not occur.

Conditions to avoid

Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

Incompatible materials

Strong oxidising agents, nitric acid, halogens.

Hazardous decomposition products

Carbon dioxide and carbon monoxide.

SECTION 11: Toxicological information

Information on toxicological effects

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Acute toxicity

Inhalation: Inhalation LC50 (rat): 364 g/m³/4H (RTECS)

Ingestion: Harmful: May cause lung damage if swallowed. May cause irritation, nausea and vomiting. Aspiration may cause asphyxia, brain damage, cardiac arrest, chemical pneumonitis and pulmonary edema.

Inhalation: Mild respiratory tract irritant with symptoms including dizziness, drowsiness, headache, nausea, confusion, persistent taste of gasoline, loss of consciousness and death. May cause irritation to respiratory system (nose, throat, lungs).

Skin corrosion/irritation

Repeated exposure may cause skin dryness, cracking, dermatitis, burning sensations and possibly followed by secondary inflammation and blisters.

Serious eye damage/irritation

Very high vapour concentrations and liquid causes eye irritation with symptoms including redness, pain, tearing and blurred vision.

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

May cause drowsiness or dizziness

Specific target organ toxicity (STOT) - repeated exposure

No data available

Aspiration hazard

May be fatal if swallowed and enters airways.

Additional information

Chronic Effects: Repeated or prolonged skin contact may cause chronic dermatitis.

SECTION 12: Ecological information

Toxicity

Biological Properties: Toxic to aquatic organisms.

Acute Toxicity - Daphnia: EC50(Daphnia magna): 9.74 mg/l/48h

Persistence and degradability

Distribution: log P(o/w): 3.39 (berechnet). Appreciable bioaccumulation is to be expected.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

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.

Other disposal recommendations

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

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1265

Class: 3

Packing Group: I

Proper Shipping Name: PENTANES

Hazchem emergency action code (EAC)

3YE

IMDG

UN Number: 1265

Class: 3

Packing Group: I

EMS Number:

Proper Shipping Name: PENTANES

IATA

UN Number: 1265

Class: 3

Packing Group: I

Proper Shipping Name: PENTANES

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: S5

SECTION 16: Other information

1.1 Corrected Signal word - from Warning to Danger

Further information/disclaimer

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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)