



Infosafe No™	1CHEY	Issue Date : August 2018	RE-ISSUED by CHEMSUPP
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Product Name : **PENTANE**

Classified as hazardous

1. Identification

GHS Product Identifier	PENTANE	
Company Name	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)	
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia	
Telephone/Fax Number	Tel: (08) 8440-2000 Fax: (08) 8440-2001	
(24 hour a day available)	CHEMCALL: 1800 127 406 (Australia) / +64-4-917-9888 (International)	
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.	
Other Names	<u>Name</u>	<u>Product Code</u>

n-PENTANE TG
n-PENTANE LR
Amyl hydride
n-PENTANE AR

PT004
PL004

PA004

Other Information

Chem-Supply 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 Chem-Supply 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 Chem-Supply 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.

2. Hazard Identification

GHS classification of the substance/mixture	Hazardous to the Aquatic Environment - Long-Term Hazard: Category 2 Aspiration Hazard: Category 1 Flammable Liquids: Category 2 Specific Target Organ Toxicity - Exposure Category 3 (respiratory tract irritation)
Signal Word (s)	DANGER
Hazard Statement (s)	H225 Highly flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H336 May cause drowsiness or dizziness. H411 Toxic to aquatic life with long lasting effects. AUH066 Repeated exposure may cause skin dryness or cracking
Pictogram (s)	Flame, Health hazard, Exclamation mark, Environment

**Precautionary statement – Prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing fume/gas/mist/vapours/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.



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Precautionary statement – Response	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331 Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P370+P378 In case of fire: Use foam, dry chemical, CO2 or water spray for extinction.
Precautionary statement – Storage	P403+P235 Store in a well-ventilated place. Keep cool. P233 Keep container tightly closed. P405 Store locked up.
Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical	Liquid				
Characterization					
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	n-Pentane	109-66-0	100 %		

4. First-aid measures

Inhalation	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.
Ingestion	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.
Skin	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.
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.
First Aid Facilities	Eye wash station, safety shower and normal washroom facilities.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Most important symptoms/effects, acute and delayed	Pentane can cause significant long-term health effects. Medical advice should be sought following any exposure.
Other Information	For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion	Flammable liquid. Irritating toxic fumes and vapours including of carbon dioxide and carbon monoxide.
Products	
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	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.
Hazchem Code	3YE
Precautions in connection with Fire	SCBA and structural firefighter's uniform may provide limited protection. Fully encapsulating, gas-tight suits should be worn for maximum protection.
Other Information	Prevent fire-fighting water from entering surface water or groundwater.



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6. Accidental release measures

Spills & Disposal	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.
Personal Precautions	Evacuate the area of all non-essential personnel. Remove ignition sources Take precautionary measures against static discharge. Avoid inhalation, contact with skin, eyes and clothing.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.
Environmental Precautions	Prevent further leakage or spillage and prevent from entering drains

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.
Storage Regulations	Refer Australian Standard AS 1940-2017 'The storage and handling of flammable and combustible liquids'.
Storage Temperatures	Store at room temperature (15 to 25 °C recommended).

8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	n-Pentane	2210	750	1770	600	
Other Exposure Information	These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. A time weighted average (TWA) has been established for n-Pentane (Safe Work Australia) of 1770 mg/m3, (600 ppm). The corresponding STEL level is 2210 mg/m3,(750 ppm). The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.					
Appropriate engineering controls	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.					
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.					
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate.					



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Hand Protection	Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste. Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
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.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Colourless liquid.
Odour	Mild gasoline-like odour.
Melting Point	-130.0 °C
Boiling Point	36.0 °C
Solubility in Water	Insoluble.
Solubility in Organic Solvents	Miscible with most organic solvents including chloroform, benzene and ethanol.
Specific Gravity	0.626 g/l
Vapour Pressure	426 mm Hg @ 20 °C
Vapour Density (Air=1)	2.5 (air=1)
Evaporation Rate	28.6 (butyl acetate = 1)
Flash Point	-49 °C
Flammability	EXTREMELY FLAMMABLE.
Auto-Ignition Temperature	308 °C
Flammable Limits - Lower	1.4%
Flammable Limits - Upper	8%
Molecular Weight	72.15
Other Information	CONVERSION FACTOR: 1 ppm = 2.95 mg/m ³ ; 1 mg/m ³ = 0.34 ppm at 25 °C

10. Stability and reactivity

Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Heat, direct sunlight, open flames or other sources of ignition. Incompatibles.
Incompatible Materials	Strong oxidising agents, nitric acid, halogens.
Hazardous Decomposition Products	Carbon dioxide and carbon monoxide.
Possibility of hazardous reactions	Reaction with strong oxidizing agents may be violent and cause fire and explosion.
Hazardous Polymerization	Will not occur.

11. Toxicological Information



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Acute Toxicity - Inhalation	Inhalation LC50 (rat): 364 g/m ³ /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	Repeated exposure may cause skin dryness, cracking, dermatitis, burning sensations and possibly followed by secondary inflammation and blisters.
Eye	Very high vapour concentrations and liquid causes eye irritation with symptoms including redness, pain, tearing and blurred vision.
Carcinogenicity	No evidence of carcinogenic properties.
Chronic Effects	Repeated or prolonged skin contact may cause chronic dermatitis.
Mutagenicity	No evidence of mutagenic effects.

12. Ecological information

Ecotoxicity	Toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Persistence and degradability	Distribution: log P(o/w): 3.39 (berechnet). Appreciable bioaccumulation is to be expected.
Biological Properties	Toxic to aquatic organisms.
Environmental Protection	Do not allow product to enter drains, waterways or sewers.
Acute Toxicity - Daphnia	EC50(Daphnia magna): 9.74 mg/l/48h

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and disposed of according to relevant local, state and federal government regulations. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
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14. Transport information

Transport Information	Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following: Class 1, Class 2.1, if both the Class 3 and Class 2.1 dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane, Class 7.
U.N. Number	1265
UN proper shipping name	PENTANES
Transport hazard class(es)	3
Hazchem Code	3YE
Packing Group	I
EPG Number	3A1
IERG Number	14

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	S5

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.
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Safety Data Sheet

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Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.

Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.

Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.

Safe Work Australia, 'Hazardous Substances Information System, 2005'.

Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.

Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.

Contact

Person/Point

Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**

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Empirical Formula & Structural Formula

C5-H12

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