



Safety Data Sheet

Date of Issue: 01.10.2020

Date of Expiry: 01.10.2025

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name: : **ECP Limited**
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Product	Pentane(n)			Code	3520
CAS#	HSNO#	UN #	DG Class/es	Packing group #	
109-66-0	HSR001212	1265	3	I	

Recommended use: Laboratory Investigations

2. Hazards Identification

2.1 GHS Classification

Flammable Liquids (Category A)
Acute toxicity, Oral (Category E)
Acute toxicity, Oral (Category E)
Acute toxicity, Dermal (Category E)
Aquatic toxicity (Acute or Chronic) (Category D)

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Danger**

Hazard statement(s)

H224 Extremely flammable liquid and vapour.
H303 May be harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H313 May be harmful in contact with skin.
H401 Toxic to aquatic life.

Precautionary statement(s)

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.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P331 Do NOT induce vomiting.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Repeated exposure may cause skin dryness or cracking.

Hazard

Classification

New Zealand:

Classified as Hazardous according to the Hazardous Substances (Classification) Regulations 2001, New Zealand.

Classified as Dangerous Goods for transport, according to the NZS 5433:1999 Transport of Dangerous Goods on Land.

HSNO Classification:

Classified as 3.1B - A substance that is flammable liquid: High hazard

Classified as 6.1E - A substance that is mildly acutely toxic.

Classified as 6.3B - A substance that is mildly irritating to the skin

Classified as 6.4A - A substance that is irritating to the eye

Classified as 9.1D - A substance that is slightly harmful to the aquatic environment or is otherwise designed for biocidal action

Australia:

Classified as Hazardous, according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).

Classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	n-Pentane	109-66-0	100 %

Other Information Technical grade contains cyclopentane, isopentane and 2-pentene.

4. FIRST AID MEASURES

Inhalation	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. If symptoms develop seek medical attention.
Ingestion	DO NOT INDUCE VOMITING. Wash out mouth with water. Where vomiting occurs naturally have victim place head below hip level in order to reduce risk of aspiration. Seek immediate medical attention.
Skin	Wash affected area extremely thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.
First Aid Facilities	Eye wash and normal washroom facilities.
Advice to Doctor	Treat symptomatically. Aspiration hazard.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 131 126).

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Foam, dry chemical, carbon dioxide.
Hazards from Combustion Products	Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.
Special Protective Equipment for fire fighters	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.
Specific Methods	Water is not generally suitable for fighting fires involving this material. n-Pentane has a low flash point, is insoluble and will float on top of water. Water spray can be used to absorb heat, keep containers cool and protect exposed material.
Specific Hazards	This product is extremely flammable. Vapours are heavier than air and will 'travel' to low-level areas e.g. sumps, drains, etc. and flashback. Precautions should be taken to eliminate the build up of explosive mixtures.
Hazchem Code	3[Y]E

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Wear appropriate personal protective equipment and clothing to minimise exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste
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according to federal, Environmental Protection Authority and state regulations. If the spillage enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

7. HANDLING AND STORAGE

Precautions for Safe Handling	Open containers cautiously as contents may be under pressure. Use only in a well ventilated area. DO NOT store or use in confined spaces. Do not enter these areas without respiratory protection or until the atmosphere has been checked. Keep tank covered and containers sealed when not in use. Build up of mists or vapours in the atmosphere must be prevented. Avoid inhalation of vapour and mists. Do not use near welding or other ignition sources and avoid sparks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. Do not smoke. Post NO SMOKING signs in are of use. Exposure without protection must be prevented in order to lessen the possibility of disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Always keep in containers made of the same material as the supply container. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Do not stack more than 3 pallets high. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids. Reference should also be made to all State and Federal regulations.
Corrosiveness	Not corrosive to metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Name	STEL (mgm3)	STEL (ppm)	TWA (mgm3)	TWA (ppm)	FootNote
	n-Pentane	2210	750	1770	600	
Biological Limit Values	No biological limit allocated.					
Engineering Controls	Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 2430.3.1: Classification of hazardous areas - Examples of area classification - General, for further information concerning ventilation requirements.					
Respiratory Protection	If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference					

should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
Hand Protection	Wear gloves of impervious material such as PVC or rubber gloves. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Body Protection	Suitable protective clothing should be worn e.g. cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless liquid.
Odour	Gasoline-like odour.
Melting Point	- 129°C
Boiling Point	36°C
Solubility in Water	Insoluble.
Solubility in Organic Solvents	Miscible with most organic solvents.
Specific Gravity	0.63 at 20°C (water=1)
pH Value	Not applicable
Vapour Pressure	500 mm/Hg at 25°C
Vapour Density (Air=1)	2.5 (air=1)
Evaporation Rate	28.6 (butyl acetate = 1)
Odour Threshold	300 - 500 ppm
Flash Point	- 49°C (closed cup)
Flammability	Extremely flammable.

Auto-Ignition Temperature	260°C
Flammable Limits - Lower	1.4%
Flammable Limits - Upper	7.8%
Molecular Weight	72.15
Other Information	CONVERSION FACTOR 1 ppm = 2.95 mg/m ³ ; 1 mg/m ³ = 0.34 ppm at 25 deg C CRITICAL TEMPERATURE Not available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Heat, direct sunlight, open flames or other sources of ignition.
Incompatible Materials	Strong oxidizing agents(e.g. peroxides, nitrates and perchlorates) - can increase risk of fire and explosion.
Hazardous Decomposition Products	None known.
Hazardous Reactions	Contact with incompatibles can increase the risk of fire or explosion.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	<p>Toxicology:</p> <p>INHALATION (mice) 5-min: 16,000-32,000 ppm, no effect; 32,000-64,000 ppm, respiratory irritation and light anaesthesia during recovery period; 90,000-120,000 ppm, deep anaesthesia; 130,000 ppm, lethal with respiratory arrest occurring within 5 minutes.</p> <p>CHRONIC INHALATION (rats): 3,000 ppm, 12 hours/day, for 16 weeks; no effect on nervous system.</p> <p>MUTAGENICITY TESTING: Negative in bacterial test (Ames test).</p>
Inhalation	May cause irritation to the mucous membrane and upper airways, especially where vapours or mists are generated. Symptoms include sneezing, coughing, wheezing, shortness of breath, headache, dizziness, nausea and vomiting.
Ingestion	Harmful: may cause lung damage if swallowed. Ingestion of this product will irritate the gastric tract causing nausea and vomiting. Aspiration into the lungs may result in chemical pneumonitis.

Skin	Prolonged contact with skin may cause blistering, and repeated contact may have a defatting effect causing dryness and cracking.
Eye	May cause eye irritation, tearing, stinging, blurred vision, and redness.
Chronic Effects	Irritation and dermatitis (inflammation, reddening and swelling) can result from prolonged or repeated contact. Potential for accumulation unlikely readily metabolized and excreted material.
Carcinogenicity	No specific data. Probably not carcinogenic. Not classed as carcinogen by NOHSC.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Persistence / Degradability	Not available.
Mobility	Not available.
Environment Protection	Do not allow product to enter drains, waterways or sewers.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Dispose of waste according to federal, EPA and state regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers. Empty containers may contain hazardous residues. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Advise flammable nature.
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14. TRANSPORT INFORMATION

Transport Information	This material is classified as a Class 3 (Flammable Liquid) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following: <ul style="list-style-type: none"> - Class 1, Explosive - Class 2.1, Flammable Gas, if both the Class 3 and Class 2.1 dangerous goods are in bulk - Class 2.3, Toxic Gas - Class 4.2, Spontaneously Combustible Substance - Class 5.1, Oxidising Agent - Class 5.2, Organic Peroxide - Class 6, Toxic and Infectious Substances, if the Class 3 dangerous goods are nitromethane - Class 7, Radioactive Substance
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U.N. Number	1265
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Proper Shipping Name PENTANES

DG Class 3

Hazchem Code 3[Y]E

Packaging Method 3.8.3

Packing Group II

EPG Number 3A1

IERG Number 14

15. REGULATORY INFORMATION

Regulatory Information Australia:
Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC).
Poison Schedule: Schedule 5
New Zealand:
Classified as Hazardous according to the Hazardous Substances (Classification) Regulations 2001.
Group standard:
Solvents (Flammable) Group Standard 2006
HSNO Approval Number:
HSR002650.

Poisons Schedule S5

Hazard Category Harmful,Extremely Flammable,Dangerous for the environment

16. Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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