



SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: n-pentane
PRODUCT SYNONYM(s): Quintane
CAS NUMBER: 109-66-0
RECOMMENDED USE: Solvent, Fuel
SUPPLIER/MANUFACTURER'S NAME: Carbon Chemistry Ltd.
ADDRESS: 34501 E Quincy Ave Bldg 28, Watkins, Colorado 80137
BUSINESS PHONE: +1 (888) 446-8421
EMERGENCY PHONE: 24 HR. EMERGENCY TELEPHONE NUMBERS
CHEMTREC: CCN832309 (800) 424-9300
DATE OF PREPARATION: May 17, 2018
DATE OF LAST REVISION: New

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the mixture

This product does meet the definition of a hazardous substance or preparation as defined by 29 CFR 1910. 1200 and WHMIS 2015.

Component(s) Contributing to Classification(s)

Pentane

GHS Label elements, including precautionary statements

Pictogram(s):



Signal Word:

Danger!

GHS Hazard Classification(s):

Flammable Liquid Category 2
Specific Target Organ Toxicity – Single Exposure Category 3 (Drowsiness / Dizziness)
Aspiration Toxicity Category 1
Aquatic Acute Category 2
Aquatic Chronic Category 2

Hazard Statement(s):

H225: Highly flammable liquid and vapour
H336: May cause drowsiness or dizziness
H304: May be fatal if swallowed and enters airways
H401: Toxic to aquatic life
H411: Toxic to aquatic life with long lasting effects

Prevention 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 equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
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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Response Statement(s):

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

P370+P378: In case of fire: Use media defined in Section 5 to extinguish.

P340+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

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

P331: Do NOT induce vomiting.

P391: Collect spillage.

Storage Statement(s):

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

P233: Keep container tightly closed.

P405: Store locked up.

Disposal Statement(s):

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards

None applicable.

SECTION 3 - COMPOSITION and INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS:	CAS #	WT %	GHS CLASSIFICATION
Pentane	109-66-0	99-100%	FLAM LIQ CAT 2, STOT SE CAT 3 (DROWSINESS / DIZZINESS), ASP TOX CAT 1, AQUATIC ACUTE / CHRONIC CAT 2

Additional Information: See SECTION 16 for full classification phrases.

SECTION 4 - FIRST-AID MEASURES

Description of first aid measures

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and SDS to health professional with contaminated individual.

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention if irritation persists.

SKIN CONTACT: Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder before re-use.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

INGESTION: If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

Most important symptoms and effects, both acute and delayed

Drowsiness / Dizziness may occur if inhaled. Aspiration hazard if swallowed.

Medical conditions aggravated by exposure:

This material or its emissions may aggravate pre-existing disorders involving any target organs mentioned in this Safety Data Sheet as being at risk.

Indication of immediate medical attention and special treatment needed

Treat symptoms and reduce over-exposure.



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SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing media

Dry powder / dry sand, alcohol-resistant foam, dry chemical or CO₂. Do NOT use water jet.

Specific hazards arising from the chemical

None known.

Explosion Sensitivity to Mechanical Impact:

Not Sensitive.

Explosion Sensitivity to Static Discharge:

Not Sensitive.

Minimum Ignition Energy (M.I.E.):

No Data at this time

Special firefighting Procedure

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Small Spill:

Absorb liquid on paper, vermiculite, floor absorbent or other absorbent material. Transfer to secondary container to be properly disposed.

Large Spill:

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Dike area of spill to prevent spreading. Pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers. Notify proper authorities that a spill has occurred.

Environmental precautions

Do not let product enter drains, do not allow to sewers/surface or ground water. See Section 12, Ecological information.

Methods and material for containment and cleaning up

Pick up released product with appropriate implements & return to original container if reusable, or dispose. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations).

SECTION 7 - HANDLING and STORAGE

General Procedures:

For transport, handling and storage, use polyethylene, plastic, lined steel or stainless steel. Protect containers from damage.

Handling:

Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Use non-sparking tools and explosion proof equipment.

Storage:

Store in tightly closed containers in cool, dry, isolated and well-ventilated area away from heat, sources of ignition and incompatible materials. Store drums with bungs in up position.

Specific end uses

Solvent, Fuel.

SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

Control parameters

EXPOSURE LIMITS/GUIDELINES:

Chemical Name	CAS#	ACGIH	OSHA
Pentane	109-66-0	600 ppm	100 ppm 2,950 mg/m ³

Exposure Controls

Currently, International exposure limits are established for the components of this product. Please check with competent authority in each country for the most recent limits in place.



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VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use local exhaust ventilation to control airborne dust. Ensure eyewash/safety shower stations are available near areas where this product is used.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses are required. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.

HAND PROTECTION: Use protective gloves as appropriate to minimize skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: Use body protection appropriate to prevent contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Information on basic physical and chemical properties

PHYSICAL STATE:	Liquid
ODOR:	Gasoline like
ODOR THRESHOLD (PPM):	Not Available
APPEARANCE / COLOR:	Colorless
pH:	Not Available
MELTING / FREEZING POINT (F°):	Not Applicable
BOILING POINT (F°):	96.6-97.3°F (35.9-36.3°C)
FLASH POINT (F°):	-56.2°F (-49°C)
EVAPORATION RATE (nBuAc = 1):	Not Available
FLAMMABILITY (solid, gas):	Not Applicable
FLAMMABLE LIMITS (in air by volume, %):	Not Applicable
VAPOR PRESSURE (mmHg):	Not Applicable
VAPOR DENSITY (AIR=1):	Not Applicable
RELATIVE DENSITY	Not Available
SOLUBILITY IN WATER (%)	Not Available
PARTITION COEFFICIENT: N-OCTANOL/WATER:	Not Applicable
AUTOIGNITION TEMPERATURE:	Not Applicable
DECOMPOSITION TEMPERATURE:	Not Applicable
VISCOSITY:	0.24 mPa.s (at 20°C)
EXPLOSIVE PROPERTIES:	Not Applicable
OXIDISING PROPERTIES:	Not Applicable
Other Information	
SPECIFIC GRAVITY 4°C: (Water = 1)	0.641 g/mL at 20°c
VOC:	Not Applicable
WEIGHT PER GALLON:	Not Applicable

SECTION 10 - STABILITY and REACTIVITY

Reactivity: No data is available.

Chemical Stability: Product is stable under recommended storage conditions.

Possibility of Hazardous Reactions: Vapours may form explosive mixture with air.

Conditions to avoid: Heat, flames and sparks.

Incompatible materials: Strong oxidizing agents.

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. - Carbon oxides



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SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

TOXICITY DATA: LD50 Oral – Mouse – 5000 mg/kg
LC50 Inhalation – Rat – 4 h – 364,000 mg/m³
LD50 Dermal – Rabbit – 3000 mg/kg

POTENTIAL HEALTH HAZARDS OR RISKS FROM EXPOSURE:

IRRITANCY OF PRODUCT: Exposure with this product can be irritating to exposed skin and eyes.

SENSITIZATION OF PRODUCT: This product is not considered a skin sensitizer.

CARCINOGENICITY: Ingredients within this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

GERM CELL MUTAGENICITY INFORMATION: This product does not contain components which are documented as Germ Cell Mutagenicity hazards.

REPRODUCTIVE TOXICITY INFORMATION: This product does not contain components which are documented as reproductive hazards.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE: This product may cause drowsiness / dizziness.

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE: No specific data available for this product.

ASPIRATION HAZARD This product is anticipated to be an aspiration hazard.

SECTION 12 - ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

Toxicity

EC50 - Daphnia magna (Water flea) – 9.74 mg/l - 48 h

Persistence and degradability

Biodegradability Biotic/Aerobic - Exposure time 192 h Result: 70 % - Readily biodegradable

Bioaccumulative potential

No data available.

Mobility in soil

No specific data available on this product.

Results of PBT and vPvB assessment

No specific data available on this product.

Other adverse effects

No specific data available on this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT DISPOSAL: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

COMMENTS: The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional/local authority requirements.





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SECTION 14 - TRANSPORTATION INFORMATION

US DOT/IMDG/IATA:

PROPER SHIPPING NAME: Pentanes

HAZARD CLASS NUMBER and DESCRIPTION: Category 3 Flammable Liquid

UN IDENTIFICATION NUMBER: UN1265

PACKING GROUP: II

DOT LABEL(S) REQUIRED: Flammable Liquid

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2016): 128

MARINE POLLUTANT: Ingredients are classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B)

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

UNITED STATES REGULATIONS

SARA REPORTING REQUIREMENTS: This product is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act.

TSCA: All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.

SARA 311/312:

Acute Health: Yes Chronic Health: No Fire: Yes Reactivity: No

U.S. CERCLA REPORTABLE QUANTITY (RQ):

CERCLA Reportable Quantity RQ: None

CLEAN WATER ACT:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

STATE REGULATIONS: None.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): None of the ingredients are on the California Proposition 65 lists.

CANADIAN REGULATIONS:

CANADIAN DSL/NDL INVENTORY STATUS: All of the components of this product are on the DSL Inventory

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: No component of this product is on the CEPA First Priorities Substance Lists.

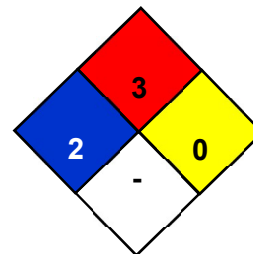
CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product is categorized as per WHMIS 2015 Controlled Product Regulations.

SECTION 16 - OTHER INFORMATION

HMIS RATING

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X

NFPA RATING



Caution: HMIS and NFPA ratings are based on a 0-4 rating scale

0= Minimal Hazard, 1= Slight, 2= Moderate, 3= High, 4= Extreme



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GENERAL STATEMENTS:

Key or Legend to abbreviations and acronyms

AIHA	- American Industrial Hygiene Association
ACGIH	- American Conference of Governmental Industrial Hygienists
CASRN	- Chemical Abstract Services Registry Number
CFR	- Code of Federal Regulations
D.O.T.	- United States Department of Transportation
IARC	- International Agency for Research on Cancer
OSHA	- Occupational Safety and Health Administration
NIOSH	- National Institute for Occupational Safety and Health
NTP	- National Toxicology Program
PPM	- Parts per million
mg/m ³	- milligram per cubic meter
kg	- kilogram
L or l	- Liter
n.o.s.	- not otherwise specified
Lbs.	- Pounds
mm ² /s	- millimeters squared per second
PMCC	- Pensky-Martens Closed Cup
LC50	- Lethal Concentration 50 (concentration in water having a 50% chance of causing death to aquatic life)
EC50	- Effective Concentration that causes 50% inhibition in growth or mobilization
OECD	- Organization for Economic Cooperation and Development
SOCMI	- Synthetic Organic Chemical Manufacturing Industry
VOC	- Volatile Organic Compound

PREPARED BY: Chris Eigbrett

MSDS to GHS Compliance (www.msdstoghs.com)

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Revision History:

May 17, 2018

- Document creation.

END OF SDS