

SAFETY DATA SHEET

1. Identification

Product identifier	Propargyl N-Butylcarbamate
Other means of identification	
Synonyms	PNBC, Butyl Carbamic acid, 2-propynyl ester
Recommended use	Chemical intermediate.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	VanDeMark Chemical Inc.
Address	1 North Transit Road, Lockport, NY 14094 USA
Telephone	716-433-6764
e-mail	sales@vdmchemical.com
Emergency telephone	CHEMTREC 1-800-424-9300 (North America) +1-703-527-3887 (International)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health Hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Sensitization, skin	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Warning
Hazard statement	Harmful if swallowed. Harmful if inhaled. May cause an allergic skin reaction. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Avoid breathing vapors. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Response	If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients**Substances**

Chemical name	Common name and synonyms	CAS number	%
Propargyl N-Butylcarbamate	PNBC, Butyl Carbamic acid, 2-propynyl ester	76114-73-3	100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. Get medical attention if any discomfort occurs.

Skin contact Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact Flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops or persists.

Ingestion Rinse mouth thoroughly with water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if any discomfort occurs.

Most important symptoms/effects, acute and delayed Direct contact with skin and eyes may cause irritation. Sensitization. Rash.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical In case of fire, toxic and corrosive gases may be formed.

Special protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers.

General fire hazards The product is combustible, but not flammable. Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Avoid inhalation of vapors and contact with skin and eyes. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate personal protective equipment (See Section 8).

Methods and materials for containment and cleaning up Take precautionary measures against static discharge. Absorb spillage with suitable absorbent material. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container. Clean contaminated surface thoroughly. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not discharge into drains, water courses or onto the ground. Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling Use only with adequate ventilation. Avoid inhalation of vapors and contact with skin and eyes. Keep away from heat, spark, open flames and other sources of ignition. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in tightly closed original container in a dry and cool place. Protect from direct sunlight. Keep at room temperature. Shelf life 6 months. Store in polyethylene or polyethylene-lined steel drums. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Provide adequate ventilation. An eye wash and safety shower must be available in the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/face protection Use chemical goggles / face shield. Eye wash station should be located in immediate work area.

Skin protection

Hand protection

Chemical resistant protective gloves consistent with Standard EN 374 Suitable materials with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

Nitrile rubber 0,35 mm coating thickness.

Butyl rubber 0,5 mm coating thickness.

Polychloroprene 0,5 mm coating thickness.

Notice: The selection of a specific glove for a application and duration of use in a workplace should also take in to account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection) potential body reactions to the glove material as well as instructions/specifications provided by the glove manufacturer.

Other

Selection of specific items such as face shield, boots, apron, or full body suit will depend on task and potential for exposure. Polyethylene coatings of 10 mils provide a barrier for splash protection. Safety shower should be located in the immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water. Launder clothing before reuse.

Respiratory protection

Respiratory protections should be worn when there is a potential to exceed the exposure limit requirements or guidelines. In case of inadequate ventilation or risk of inhalation of vapors, suitable respiratory equipment with particulate filter and organic vapor cartridges can be used. If respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. In higher concentrations or in case of insufficient data on concentration wear a positive-pressure supplied-air respirator.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Private clothes and working clothes should be kept separately.

9. Physical and chemical properties

Appearance	Clear.
Physical state	Liquid.
Form	Liquid.
Color	Amber.
Odor	Sweet. Organic.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	-22 °F (-30 °C)
Initial boiling point and boiling range	194 °F (90 °C) (1.0 mmHg)
Flash point	251.6 °F (122.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor density	Not available.
Relative density	0.99
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	312.8 °F (156 °C) Q = 20.6 joules/gram 482 °F (250 °C) Q = 451 joules/gram
Viscosity	Not available.

Other information

Molecular formula	C8H13NO2
VOC (Weight %)	Not applicable.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions. Decomposes on heating.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Heat. Air. Moisture. Keep away from incompatible material.
Incompatible materials	Strong oxidizing agents. Strong reducing agents. Acids. Bases. Contact with acids or bases may result in the formation of propargyl alcohol, a highly toxic substance.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Hydrogen cyanide. Thermal decomposition or combustion may liberate toxic and/or corrosive gases or fumes.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Prolonged or repeated skin contact may cause irritation.
Eye contact	May cause eye irritation on direct contact.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with skin and eyes may cause irritation. Sensitization. Rash.

Information on toxicological effects

Acute toxicity Ingestion may cause irritation and malaise.

Product	Species	Test Results
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Propargyl N-Butylcarbamate (CAS 76114-73-3)

Acute

Oral

LD50	Rat	> 500 mg/kg
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Skin corrosion/irritation Prolonged or repeated skin contact may cause irritation.

Serious eye damage/eye irritation May cause eye irritation on direct contact.

Respiratory or skin sensitization

Respiratory sensitization	No data available.
Skin sensitization	May cause an allergic skin reaction.

Germ cell mutagenicity No data available.

Carcinogenicity No data available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity No data available.

Specific target organ toxicity - single exposure No data available.

Specific target organ toxicity - repeated exposure No data available.

Aspiration hazard Not classified.

Chronic effects None known.

Further information No data available.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Persistence and degradability No data available.

Bioaccumulative potential	The product is not expected to bioaccumulate.
Mobility in soil	The product is insoluble in water and will sediment in water systems.
Mobility in general	May decompose to form propargyl alcohol.
Other adverse effects	May decompose in the environment to propargyl alcohol.

13. Disposal considerations

Disposal instructions	Dispose of in accordance with local regulations. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Do not discharge into drains, water courses or onto the ground.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Contaminated packaging	Since emptied containers retain product residue, follow label warnings even after container is emptied. Do not get water inside containers.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	30-October-2014
Revision date	-
Version #	01
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 2 Flammability: 1 Physical hazard: 1

NFPA ratings**References**

C&L Inventory database. ACGIH
 NLM: Hazardous Substances Data Base
 US. IARC Monographs on Occupational Exposures to Chemical Agents
 HSDB® - Hazardous Substances Data Bank
 IARC Monographs. Overall Evaluation of Carcinogenicity
 National Toxicology Program (NTP) Report on Carcinogens
 ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.