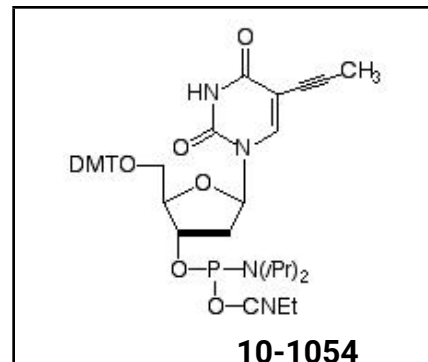


1. Product and Company Identification

Product Code: 10-1054-xx
Product Name: pdU-CE Phosphoramidite
Product Use: For Research Use Only
Manufacturer Information
Company Name: Glen Research LLC
22825 Davis Drive
Sterling, VA 20164 USA
1-703-437-6191
Phone Number: 1-703-437-6191
Web site address: www.glenresearch.com
Email address: msds@glenres.com
Information in case of emergency
CAS Number: 198080-43-2
Synonyms: pdU-CE Phosphoramidite



2. Hazards Identification

GHS Hazard Statements

- H303: May be harmful if swallowed.
- H313: May be harmful in contact with skin.
- H320: Causes eye irritation.
- H333: May be harmful if inhaled.

GHS Precautionary Statements

- P103: Read label before use.
- P232: Protect from moisture.
- P233: Keep container tightly closed.
- P280: Wear protective gloves / protective clothing / eye protection / face protection.

GHS Response Statements

- P301 + 330: IF SWALLOWED: Rinse mouth with water.
- P302 + 350: IF ON SKIN: Gently wash with soap and water.
- P304 + 340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305 + 351 + 338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so - continue rinsing.
- P306 + 360: IF ON CLOTHING: Rinse contaminated clothing and skin immediately with plenty of water before removing clothes.
- P314: Get medical advice / attention if you feel unwell.
- P362: Take off contaminated clothing and wash before use.

GHS Storage and Disposal Phrases

- P401 Store in a cool, dry place
- P501: Dispose of contents / container in a safe way in accordance with all federal, state and local regulations.

Emergency Overview

No known OSHA hazards. May cause eye, skin, and respiratory tract irritation.

Route(s) of Entry:

Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

No data available.

Recommended Exposure Limits

No data available.

LD 50 / LC 50

No data available.

Signs and Symptoms of Exposure

No data available.

Medical Conditions Generally Aggravated By Exposure

No data available.

3. Composition/Information on Ingredients

| Product Name | CAS # | Concentration | M.W. | Formula |
|------------------------|------------------------|----------------------|-------------|-----------------------|
| pdU-CE Phosphoramidite | 198080-43-2 | 100 % | 768.85 | $C_{42}H_{49}N_4O_8P$ |
| Synonyms: | pdU-CE Phosphoramidite | | | |

4. First Aid Measures

Emergency and First Aid Procedures

If inhaled, remove to fresh air.

If not breathing, give artificial respiration.

Get medical attention.

In case of skin contact, immediately wash skin with soap and plenty of water.

Remove contaminated clothing.

Wash clothing before reuse.

Get medical attention if symptoms occur after washing.

If swallowed, rinse mouth with water.

Get medical attention.

If in contact with eyes, rinse cautiously with water for several minutes.

Get medical attention if symptoms occur after washing.

Remove contact lenses if present and continue rinsing.

5. Fire Fighting Measures

Flash Point: No data

Explosive Limits: LEL: No data UEL: No data

Fire Fighting Instructions

A finely divided dust aerosol may be explosive, although the exact conditions of the hazards are unknown.

Wear appropriate protective clothing to prevent contact with skin and eyes.

Wear a self-contained breathing apparatus (SCBA) if necessary.

Flammable Properties and Hazards

No data available.

Hazardous Combustion Products

Oxides of nitrogen, carbon and phosphorous

Suitable Extinguishing Media

Use a Class A Extinguisher (Dry chemical, carbon dioxide, water or foam).

Unsuitable Extinguishing Media

No data available.

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6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Sweep up bulk of material and finish by wiping with a damp towel. Do not let product enter the drain.

Wear impermeable gloves, safety glasses and a lab coat when cleaning up the spill.

A NIOSH dust mask is recommended when a possibility of dust inhalation exists. Local exhaust is usually sufficient.

7. Handling and Storage

Precautions To Be Taken in Handling

Handle using safe laboratory practices. Avoid all direct contact.

Recommended Storage

Refrigerated storage, maximum of 2-8°C, dry

Precautions To Be Taken in Storing

Keep container tightly closed. Store in well-ventilated place.

Other Precautions

Protect from sunlight.

8. Exposure Controls/Personal Protection

| Product Name | CAS # | OSHA PEL | ACGIH TLV | Other Limits |
|------------------------|-------------|----------|-----------|--------------|
| pdU-CE Phosphoramidite | 198080-43-2 | No data | No data | No data |

Respiratory Equipment (Specify Type)

A NIOSH dust mask is recommended when a possibility of dust inhalation exists.

Eye Protection

Safety glasses

Protective Gloves

Impermeable gloves

Other Protective Clothing

Normal laboratory apparel

Engineering Controls (Ventilation etc.)

Local exhaust ventilation is usually sufficient

Work/Hygienic/Maintenance Practices

Wash hands after handling

9. Physical and Chemical Properties

| | | | |
|--|-------------------------------|---------------------------------|---|
| Physical State: | <input type="checkbox"/> Gas | <input type="checkbox"/> Liquid | <input checked="" type="checkbox"/> Solid |
| Appearance: | White to off-white crisp foam | | |
| Odor: | Odorless | | |
| Odor Threshold: | No data | | |
| pH: | No data | | |
| Melting Point: | No data | | |
| Freezing Point: | No data | | |
| Initial Boiling Point and Boiling Range: | No data | | |
| Flash Point: | No data | | |
| Specific Gravity: | ~1 | | |
| Evaporation Rate (Water=1): | << 1 | | |
| Flammability: | No data | | |
| Explosive Limits: | LEL: No data | UEL: No data | |

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Vapor Pressure (vs. Air or mm Hg): No data
Vapor Density (vs. Air = 1): No data
Relative Density: No data
Solubility in Water: No data
Partition Coefficient (n-octanol/water): No data
Auto-ignition Temperature: No data
Decomposition Temperature: No data
Viscosity: No data
Percent Volatile: No data

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

Stable under recommended storage conditions.

Incompatibility - Materials To Avoid

Strong oxidizing reagents

Hazardous Decomposition or Byproducts

Oxides of nitrogen, carbon and phosphorous may evolve when heated to decomposition.

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Reactions

Stable material, hazardous polymerization will not occur.

11. Toxicological Information

To the best of our knowledge, the toxicological properties of this substance have not been investigated.

This product should be handled with the usual care when dealing with chemicals.

| Product Name | CAS # | NTP | IARC | OSHA |
|------------------------|-------------|---------|---------|---------|
| pdU-CE Phosphoramidite | 198080-43-2 | No data | No data | No data |

12. Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

For Product - Observe all federal, state and local regulations.

For Contaminated Packaging - Dispose of in compliance with regulations.

Sweep up bulk of material and finish by wiping with a damp towel. Dispose of unused product.

14. Transport Information

LAND TRANSPORT (49CFR)

49CFR Shipping Name Not a dangerous substance as defined in the regulations.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not a dangerous substance as defined in the regulations.

MARINE TRANSPORT (IMDG/IMO)

IMDG/IMO Shipping Name Not a dangerous substance as defined in the regulations.

Marine Pollutant: No

Additional Transport Information

Not regulated as a hazardous material or dangerous goods.

15. Regulatory Information

Regulatory Information

SARA 302 Components: No chemicals in this product are subject to reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This product does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

16. Other Information

For all other inquiries about this product contact Glen Research at 1-800-327-GLEN or 1-703-437-6191.

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