

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) and Canadian
Workplace Hazardous Material Information System (WHMIS 2015)

Revision date 07-Jun-2024

Revision Number 1

1. Identification

Product identifier

| Product Catalog Number: | Product Description: |
|-------------------------|---|
| 10-3220-XX | 5'-O-(4,4'-Dimethoxytrityl)-2'-O-methoxyethyl-N2-isobutyryl-guanosine-3'-O-[(2-cyanoethyl)-(N,N-diisopropyl)]-phosphoramidite |

Product Code(s)
10-3220-XX

Product Name
G-2'-MOE-Phosphoramidite

Other means of identification

Synonyms None

Registration Number(s) CAS: 251647-55-9

Recommended use of the chemical and restrictions on use

Recommended use For research use only

Restrictions on use Not for human diagnostic use

Details of the supplier of the safety data sheet

Manufacturer Address

Glen Research LLC
22825 Davis Drive
Sterling, VA 20164 USA

Emergency telephone number

Company Phone Number 1-703-437-6191

Website www.glenresearch.com

E-mail address support@glenresearch.com

2. Hazard(s) identification

Classification

This product is not considered hazardous by either the US 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) or the Canadian Workplace Hazardous Material Information System (WHMIS 2015)

Appearance Powder

Physical state Solid

Odor Odorless

Label elements

Hazard statements

This product is not considered hazardous by either the US 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) or the Canadian Workplace Hazardous Material Information System (WHMIS 2015)

Other information

No information available.

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

Formula C47H60N7O10P

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|-------------|----------|--|---|
| 5'-O-(4,4'-Dimethoxytrityl)-2'-O-methoxyethyl-N2-isobutyryl-guanosine-3'-O-[(2-cyanoethyl)-(N,N-diisopropyl)]-phosphoramidite | 251647-55-9 | 100 | - | - |

The product contains no substances which at their given concentration, are considered to be hazardous to health.

4. First-aid measures**Description of first aid measures**

| | |
|-----------------------|--|
| General advice | This product presents no hazards under normal conditions of use. |
| Inhalation | Not an expected route of exposure. IF exposed or concerned: Get medical advice/attention. |
| Eye contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Skin contact | Wash skin with soap and water. Get medical attention if symptoms occur. |
| Ingestion | Not an expected route of exposure. IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. |

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

| | |
|---|---|
| Large Fire | CAUTION: Use of water spray when fighting fire may be inefficient. |
| Unsuitable extinguishing media | Do not scatter spilled material with high pressure water streams. |
| Specific hazards arising from the chemical | No information available. |
| Hazardous combustion products | Nitrogen oxides (NOx). Carbon oxides. Phosphorus oxides. |
| Explosion data | |
| Sensitivity to mechanical impact | None. |
| Sensitivity to static discharge | None. |
| Special protective equipment and precautions for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|---------------------------------|---|
| Personal precautions | Ensure adequate ventilation. Use personal protective equipment as required. |
| For emergency responders | Use personal protective equipment as required. |

Methods and material for containment and cleaning up

| | |
|--|--|
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. |
| Prevention of secondary hazards | Clean contaminated objects and areas thoroughly observing environmental regulations. |

7. Handling and storage

Precautions for safe handling

| | |
|--------------------------------|--|
| Advice on safe handling | Handle in accordance with good industrial hygiene and safety practice. |
|--------------------------------|--|

Conditions for safe storage, including any incompatibilities

| | |
|----------------------------|--|
| Storage Conditions | Store under refrigeration at 2°C to 8°C (36°F to 45°F). Keep containers tightly closed in a dry, cool and well-ventilated place. |
| Packaging materials | Glass. Plastic container. |

8. Exposure controls/personal protection

Control parameters

| | |
|------------------------|--|
| Exposure Limits | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies |
|------------------------|--|

Appropriate engineering controls

| | |
|-----------------------------|---------|
| Engineering controls | Showers |
|-----------------------------|---------|

Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

| | |
|--|--|
| Eye/face protection | If splashes are likely to occur: Wear safety glasses with side shields (or goggles). |
| Hand protection | No special protective equipment required. |
| Skin and body protection | If there is a risk of contact: Wear suitable protective clothing. |
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Other protective equipment | No information available. |
| Environmental exposure controls | Avoid creating dust. Prevent product from entering drains. |
| General hygiene considerations | Handle in accordance with good industrial hygiene and safety practice. |
| Thermal hazards | No information available. |

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------------|--------------------------|
| Physical state | Solid |
| Appearance | Powder |
| Color | White to light yellow |
| Odor | Odorless |
| Odor threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|----------------------|--------------------------------|
| pH | No data available | No data available |
| Melting point / freezing point | No data available | No data available |
| Initial boiling point and boiling range | No data available | No data available |
| Flash point | No data available | No information available |
| Evaporation rate | No data available | None known |
| Flammability | No data available | No information available |
| Flammability Limit in Air | | No information available |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapor pressure | No data available | No information available |
| Relative vapor density | No data available | No information available |
| Relative density | ~1 | None known |
| Water solubility | No data available | None known |
| Solubility in other solvents | No data available | No information available |
| Partition coefficient | No data available | No information available |
| Autoignition temperature | No data available | No information available |
| Decomposition temperature | No data available | No data available |
| Kinematic viscosity | No data available | No data available |
| Dynamic viscosity | No data available | No data available |

Other information

| | |
|-----------------------------|--------------------------|
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| Softening point | No information available |
| Molecular weight | 914.01 |
| VOC content | No information available |

| | |
|-----------------------|--------------------------|
| Liquid Density | No information available |
| Bulk density | No information available |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | None known based on information supplied. |
| Incompatible materials | None known based on information supplied. |
| Hazardous decomposition products | None under normal use conditions. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. |
| Eye contact | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |
| Ingestion | Specific test data for the substance or mixture is not available. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|-----------------|---------------------------|
| Symptoms | No information available. |
|-----------------|---------------------------|

Acute toxicity

| | |
|---------------------------------------|--------------------------|
| Numerical measures of toxicity | No information available |
|---------------------------------------|--------------------------|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---------------------------|
| Skin corrosion/irritation | No information available. |
| Serious eye damage/eye irritation | No information available. |
| Respiratory or skin sensitization | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Dispose of in accordance with federal, state and local regulations. Do not reuse empty containers.

14. Transport information

DOT This product is not classified as dangerous goods, per U.S. DOT regulations under 49 CFR 172.101

IATA This product is not classified as Dangerous Goods, by rules of IATA.

IMDG This product is not classified as Dangerous Goods by the International Maritime Organization.

15. Regulatory information

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

| | |
|----------------------|-----------------|
| TSCA | Not determined. |
| DSL/NDSL | Not determined. |
| EINECS/ELINCS | Not determined. |
| ENCS | Not determined. |
| IECSC | Not determined. |
| KECI | Not determined. |
| PICCS | Not determined. |
| AIIC | Not determined. |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

| | | | | |
|-------------|-------------------------|-----------------------|---------------------------|------------------------------|
| NFPA | Health hazards 0 | Flammability 0 | Instability 0 | Special hazards - |
| HMIS | Health hazards 0 | Flammability 0 | Physical hazards 0 | Personal protection X |

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | Sk* | Skin designation |

Revision date 07-Jun-2024

Revision Note No information available

Disclaimer

The information provided herein is based on sources believed to be reliable as of the issue date of this document, and pertains only to the material designated. Glen Research LLC makes no warranty or representation to its completeness, accuracy or currency. This material is intended for use by persons with the pertinent technical skills and at their discretion and risk. It is responsibility of the user to determine the product's suitability for its intended use, the product's safe use and the product's proper disposal. Disposal of hazardous material may be subject to federal, state or local regulations.

End of Safety Data Sheet