

SUPPORTING INFECTIOUS DISEASE RESEARCH

Issue Date 26-Nov-2018

Revision Date Not applicable

Version 1

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

**Product identifier**

**Product Name** Antiviral Compound UV-4B  
**Product Code** NR-51350 and NR-51351

**Other means of identification**

**Synonyms** UV-4B (EV016Q, EV016QISO)

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Material is authorized for research, non-commercial purposes only.  
**Uses Advised Against** Not available.

**Details of the supplier of the safety data sheet**

**Supplier Address**

BEI Resources  
 10801 University Blvd.,  
 Manassas, VA,  
 USA, 20110-2204

**Emergency telephone number**

**Company Phone Number** (800) 359-7370/ (703) 365-2727  
**24 Hour Emergency Phone Number** Chemtrec (US): 1-800-424-9300  
 Domestic: (703) 365-2710  
 International: +1(703)-527-3887

**2. HAZARDS IDENTIFICATION**

**Classification**

**Health Hazards**

Not classified.

**Physical Hazards**

Not classified.

**OSHA Regulatory Status**

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard/Globally Harmonized System of Classification and Labelling of Chemicals (GHS); (29 CFR 1910.1200; Revision 3).

**Label elements**

**Emergency Overview**

Normal precautions common to safe manufacturing practice should be followed in handling and storage.

**Appearance** White to off-white powder.

**Physical State** Solid.

**Odor** Not available.

**Hazards not otherwise classified (HNOC)**

Biosafety Level 1

**Other information**

Limited information available on API. The product has not been completely analyzed and all hazards may not be known. Please use caution while handling this product.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard/Globally Harmonized System of Classification and Labelling of Chemicals (GHS); (29 CFR 1910.1200; Revision 3).

<b>Common name</b>	UV-4B.
<b>Chemical name</b>	N9-methoxynonyl-deoxyojirimycin hydrochloride; 2R,3R,4R,5S-2-(hydroxymethyl)-1-(9-methoxynonyl)piperidine-3,4,5-triol hydrochloride.
<b>Chemical Family</b>	Piperidine iminosugar; 1-deoxyojirimycin derivative.
<b>Formula</b>	C <sub>16</sub> H <sub>33</sub> ClNO <sub>5</sub>
<b>Chemical nature</b>	Antiviral compound; an endoplasmic reticulum glucosidase inhibitor.

Chemical Name	CAS No.	Weight-%
UV-4B	1333144-07-2	100

### 4. FIRST AID MEASURES

**First aid measures**

<b>Eye Contact</b>	Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice/attention.
<b>Skin Contact</b>	Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water for several minutes or until medical aid is available. Remove contaminated clothing and wash before re-use or discard. If skin irritation occurs, get medical advice/attention.
<b>Inhalation</b>	Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor. Immediately call a POISON CENTER/doctor.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTER/doctor. If breathing has stopped, do not give anything by mouth and immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Treatment of fluid and electrolyte loss is usually achieved through oral rehydration.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Not 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.

**Unsuitable Extinguishing Media** None known.

**Specific hazards arising from the chemical**

Avoid generating dust. May emit fumes when exposed to heat or fire.

**Hazardous Combustion Products** Not available.

**Explosion data**

Fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential explosion hazard.

**Sensitivity to Mechanical Impact** None known.

**Sensitivity to Static Discharge** None known.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Wear appropriate personal protective equipment (see Section 8). Keep unnecessary personnel away. Ensure adequate ventilation, especially in confined areas. Avoid dust formation.

**Environmental precautions****Environmental Precautions**

See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up****Methods for Containment**

Prevent further leakage or spillage if safe to do so. Avoid dispersion of dust. Remove all sources of ignition. Use only non-sparking tools.

**Methods for Cleaning Up**

Patient/Victim: Wash with soap and water. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Do not take clothing home.  
Equipment/Environment: Mix with sand, diatomaceous earth or similar inert absorbent material, sweep up and keep in a tightly closed container for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling****Advice on Safe Handling**

Use aseptic procedures. In case of spills, mix with sand or similar inert absorbent material, sweep up and keep in a tightly closed container for disposal. Do not get in eyes, on skin or on clothing. Do not breathe dust, vapors or mist. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Eyewash stations and showers should be available in areas where this material is used and stored. Frequent and careful hand-washing and laboratory decontamination should be strictly enforced. Ventilation Requirements: Use only with adequate ventilation to control air contaminants to their exposure limits. Required HEPA-filtered vacuum lines. Should be handled by trained laboratory personnel using good laboratory practices.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

All containers must be properly labelled. Store in approved containers at 2°C to 8°C and protect against physical damage. Keep containers securely sealed in a dry and well-ventilated place when not in use. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous. If frozen suspension, store intact at -70°C. If the item is freeze-dried, store at -20°C. Freeze-dried products are hygroscopic and must be protected from exposure to moisture and

oxygen during storage.

**Packaging materials** Packaged aseptically in glass serum vials.

**Incompatible materials** Strong acids, bases, and oxidizing/reducing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with Occupational Exposure Limits (OEL) established by the region-specific regulatory bodies.

### Appropriate engineering controls

**Engineering Controls** The health hazard risks of handling this material are dependent on factors, such as physical form and quantity. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** In laboratory, medical or industrial settings, safety glasses with side shields are highly recommended. The use of goggles or full face protection may be required depending on the industrial exposure setting. Contact a health and safety professional for specific information.

**Skin and Body Protection** In laboratory, medical or industrial settings, gloves and lab coats are recommended. The use of additional personal protective equipment such as shoe coverings, gauntlets, hoods or head coverings may be necessary. Contact a health and safety professional for specific information.

**Respiratory Protection** Not required for normal handling of packed product. Respirators may be required for certain laboratory and manufacturing tasks if engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (where the exposure limits have not been established). Workplace risk assessments should be completed before specifying and implementing respirator usage. All respirators must conform to specifications for efficiency and performance indicated by OSHA Standard 29 CFR 1910.134.

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Solid.	<b>Odor</b>	Not available.
<b>Appearance</b>	White to off-white powder.	<b>Odor Threshold</b>	Not available.
<b>Color</b>	Not available.		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	Not available.	
Melting Point/Freezing Point	89.0°C to 100.0°C	
Boiling Point/Boiling Range	Not available.	
Flash Point	Not available.	
Evaporation Rate	Not available.	

Flammability (solid, gas)	Not available.
Flammability Limit in Air	
Upper Flammability Limit:	Not available.
Vapor Pressure	Not available.
Specific Gravity	Not available.
Water Solubility	Not available.
Solubility in Other Solvents	Not available.
Partition Coefficient	Not available.
Autoignition Temperature	Not available.
Decomposition Temperature	Not available.
Explosive Properties	Not available.
Oxidizing Properties	Not available.
<u>Other information</u>	
Softening Point	Not available.
Molecular Weight	355.90
VOC Content (%)	Not available.
Density	Not available.
Bulk Density	Not available.

## 10. STABILITY AND REACTIVITY

### Reactivity

Not available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Not available.

### Hazardous Polymerization

No data available.

### Conditions to avoid

Prevent the formation of dust.

### Incompatible materials

Strong acids, bases, and oxidizing/reducing agents.

### Hazardous decomposition products

Not available.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

#### Acute Toxicity

No data available.

### Information on toxicological effects

#### Symptoms

Toxicological properties have not been thoroughly investigated.

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

#### Skin Corrosion/Irritation

No data available.

#### Serious Eye Damage/Eye Irritation

No data available.

#### Sensitization

No data available.

#### Germ Cell Mutagenicity

No data available.

<b>Carcinogenicity</b>	No data available.
<b>Reproductive Toxicity</b>	No data available.
<b>STOT - Single Exposure</b>	No data available.
<b>STOT - Repeated Exposure</b>	No data available.
<b>Aspiration Hazard</b>	No data available.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

No data available.

### Persistence and degradability

No data available.

### Bioaccumulation

No data available.

### Mobility

No data available.

### Other adverse effects

No data available.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Disposal of Wastes</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated Packaging</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations. Do not reuse container.
<b>U.S. EPA Waste Number</b>	Not available.
<b>California Hazardous Waste Codes</b>	Not available.

This product does not contain substances that are listed with the State of California as hazardous waste.

## 14. TRANSPORT INFORMATION

<b>DOT</b>	Regulated.
<b>UN/ID No.</b>	Not available
<b>Proper shipping name</b>	N9-Methoxynonyl-Deoxynojirimycin Hydrochloride (UV-4B)
<b>Hazard Class</b>	Class 6.1
<b>Packing Group</b>	I
<b>IATA</b>	Regulated.
<b>UN/ID No.</b>	Not available
<b>Proper shipping name</b>	N9-Methoxynonyl-Deoxynojirimycin Hydrochloride (UV-4B)
<b>Hazard Class</b>	Class 6.1
<b>Packing Group</b>	I

**15. REGULATORY INFORMATION****U.S. 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 subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**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.

**U.S. State Regulations****California Proposition 65**

No component is on the Prop 65 list.

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations.

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable.

**16. OTHER INFORMATION**

<b>Prepared By</b>	BEI Resources
<b>Issue Date</b>	26-Nov-2018
<b>Revision Date</b>	Not applicable.
<b>Revision Note</b>	New SDS.

**Disclaimer**

BEI Resources considers that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. The information contained herein is designated only as guidance for safe handling, storage and use of the substance and is not a specification nor does it guarantee any specific properties. Only competent personnel, within a controlled environment should handle all chemicals. BEI Resources is not to be held liable for any loss, injury or damage from contact with the product.

**End of Safety Data Sheet**