

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihalan Produk: 5'-O-(4,4'-Dimethoxytrityl)-2'-fluoro-N2-isobutyryl-2'-deoxyguanosine  
 Product Description: 5'-O-(4,4'-Dimethoxytrityl)-2'-fluoro-N2-isobutyryl-2'-deoxyguanosine  
 Cat No. : J64232  
 CAS No 144089-96-3  
 Molecular Formula C35 H36 F N5 O7

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

**Company**

Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
 Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,  
 No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,  
 Selangor Darul Ehsan, Malaysia.  
 Main line: +60 3-5525 7888

**Supplier**

E-mail address Enquiry.my@thermofisher.com

**Emergency Telephone Number**

Tel: +03-5525 7888  
 CHEMTREC Malaysia 1-800-815-308 (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) +(60)-327884561 (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

|  |                   |
|--|-------------------|
| Acute oral toxicity                                | Category 4 (H302) |
| Skin Corrosion/Irritation                          | Category 2 (H315) |
| Serious Eye Damage/Eye Irritation                  | Category 2 (H319) |
| Specific target organ toxicity - (single exposure) | Category 3 (H335) |

**Label Elements**


Signal Word

Warning

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## Hazard Statements

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

## Precautionary Statements

### Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

### Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P330 - Rinse mouth  
P362 + P364 - Take off contaminated clothing and wash it before reuse

### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

This product does not contain any known or suspected endocrine disruptors  
Toxic to terrestrial vertebrates

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component   | CAS No      | Weight % |
|---|-------------|----------|
| 5'-O-(4,4'-Dimethoxytrityl)-2'-fluoro-N2-isobutyryl-2'-deoxyguanosine | 144089-96-3 | <=100    |

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

#### Self-Protection of the First Aider

No special precautions required.

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

None reasonably foreseeable.

## Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

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

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Hydrogen fluoride.

### Advice for fire-fighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

### Environmental precautions

Should not be released into the environment.

### Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

### Conditions for Safe Storage, Including any Incompatibilities

Keep refrigerated.

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## Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

### Exposure Controls

#### **Engineering Measures**

None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protective equipment

|                                 |                       |
|---------------------------------|-----------------------|
| <b>Eye Protection</b>           | Goggles               |
| <b>Hand Protection</b>          | Protective gloves     |
| <b>Skin and body protection</b> | Long sleeved clothing |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

|                                 |   |
|---------------------------------|---|
| <b>Respiratory Protection</b>   | No protective equipment is needed under normal use conditions |
| <b>Recommended Filter type:</b> | Particle filter   |

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

### Environmental exposure controls

No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|                       |                          |
|-----------------------|--------------------------|
| <b>Appearance</b>     | White - Light yellow     |
| <b>Physical State</b> | Solid                    |
| <b>Odor</b>           | No information available |
| <b>Odor Threshold</b> | No data available        |
| <b>pH</b>             | Not applicable           |

|                            |                          |
|----------------------------|--------------------------|
| <b>Melting Point/Range</b> | No data available        |
| <b>Softening Point</b>     | No data available        |
| <b>Boiling Point/Range</b> | No information available |
| <b>Flash Point</b>         | No information available |

**Method -** No information available

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|                          |                          |       |
|--------------------------|--------------------------|-------|
| Evaporation Rate         | Not applicable           | Solid |
| Flammability (solid,gas) | No information available |       |
| Explosion Limits         | No data available        |       |

|                              |                          |       |
|------------------------------|--------------------------|-------|
| Vapor Pressure               | No data available        | Solid |
| Vapor Density                | Not applicable           |       |
| Specific Gravity / Density   | No data available        |       |
| Bulk Density                 | No data available        |       |
| Water Solubility             | No information available |       |
| Solubility in other solvents | No information available |       |

Partition Coefficient (n-octanol/water)

|                           |                          |       |
|---------------------------|--------------------------|-------|
| Autoignition Temperature  | No data available        | Solid |
| Decomposition Temperature | No data available        |       |
| Viscosity                 | Not applicable           |       |
| Explosive Properties      | No information available |       |
| Oxidizing Properties      | No information available |       |

|                   |                 |
|-------------------|-----------------|
| Molecular Formula | C35 H36 F N5 O7 |
| Molecular Weight  | 657.69          |

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

|                          |                               |
|--------------------------|-------------------------------|
| Hazardous Polymerization | No information available.     |
| Hazardous Reactions      | None under normal processing. |

### Conditions to Avoid

None known.

### Incompatible Materials

None known.

### Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>). Hydrogen fluoride.

## SECTION 11: TOXICOLOGICAL INFORMATION

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## Information on Toxicological Effects

### Product Information

**(a) acute toxicity;**

|            |                   |
|------------|-------------------|
| Oral       | Category 4        |
| Dermal     | No data available |
| Inhalation | No data available |

**(b) skin corrosion/irritation;** Category 2

**(c) serious eye damage/irritation;** Category 2

**(d) respiratory or skin sensitization;**

|             |                   |
|-------------|-------------------|
| Respiratory | No data available |
| Skin        | No data available |

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;** No data available  
There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** Category 3  
**Results / Target organs** Respiratory system.

**(i) STOT-repeated exposure;** No data available  
**Target Organs** None known.

**(j) aspiration hazard;** Not applicable  
Solid

**Symptoms / effects, both acute and delayed** No information available.

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects** Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

**Persistence and degradability** No information available

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|  |   |
|--|---|
| <u>Bioaccumulative potential</u>       | No information available  |
| <u>Mobility in soil</u>                | No information available.   |
| <u>Endocrine Disruptor Information</u> | This product does not contain any known or suspected endocrine disruptors |
| <u>Other adverse effects</u>           | No information available  |

## SECTION 13: DISPOSAL CONSIDERATIONS

|  |   |
|--|---|
| <u>Waste treatment methods</u>             |   |
| <b>Waste from Residues/Unused Products</b> | Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations |
| <b>Contaminated Packaging</b>              | Dispose of this container to hazardous or special waste collection point.   |
| <b>Other Information</b>                   | Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains   |

## SECTION 14: TRANSPORT INFORMATION

|                                     |                                 |
|-------------------------------------|---------------------------------|
| <u>IMDG/IMO</u>                     | Not regulated                   |
| <u>Road and Rail Transport</u>      | Not regulated                   |
| <u>IATA</u>                         | Not regulated                   |
| <b>Special Precautions for User</b> | No special precautions required |

## SECTION 15: REGULATORY INFORMATION

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

|                                  |  |
|----------------------------------|--|
| <b>International Inventories</b> | X = listed U.S.A. (TSCA) Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) Korea (KECL) China (IECSC) Japan (ENCS) Philippines (PICCS) Taiwan (TCSI) Japan (ISHL) New Zealand (NZIoC) Japan (ISHL) |
|----------------------------------|--|

### National Regulations

|                                     |  |
|-------------------------------------|--|
| <b>Persistent Organic Pollutant</b> | This product does not contain any known or suspected substance |
| <b>Ozone Depletion Potential</b>    | This product does not contain any known or suspected substance |

## SECTION 16: OTHER INFORMATION

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## Legend

**CAS** - Chemical Abstracts Service

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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

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

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

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

## Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Prepared By**

**Revision Date**

**Revision Summary**

Health, Safety and Environmental Department

30-Mar-2025

SDS sections updated.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**