





## Material Safety Data Sheet

United States  
English

## Section 1. Chemical product and company identification

|                             |  |   |                |
|-----------------------------|--|---|----------------|
| Product name                | Cy™5 NHS ester, 1 mg   |   |                |
| Catalogue Number            | PA15101  | <br>9 0 P A 1 5 1 0 1 |                |
| Material uses               | Industrial applications: Analytical chemistry. Research.   |   |                |
| Product type                | Solid.   |   |                |
| Validation date             | 1 December 2009  |   |                |
| Print date                  | 01 December 2009   |   |                |
| Supplier                    | GE Healthcare UK Ltd<br>Amersham Place<br>Little Chalfont<br>Buckinghamshire HP7 9NA<br>England<br>+44 0870 606 1921 |   |                |
| <u>In case of emergency</u> | US   | ChemTrec (US)   | 1-800-424-9300 |
|                             | Canada   | ChemTrec (US)   | 1-703-527-3887 |

## 2. Hazards identification

|   |   |
|---|---|
| Physical state                          | Solid.  |
| Odor                                    | Odorless.   |
| OSHA/HCS status                         | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).   |
| Emergency overview                      | <p> <b>WARNING!</b></p> <p>HARMFUL IF INHALED. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.</p> <p> Harmful by inhalation. May be harmful if absorbed through skin or if swallowed. May cause sensitization by inhalation and skin contact. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.</p> |
| Routes of entry                         | Dermal contact. Eye contact. Inhalation. Ingestion.   |
| <b>Potential acute health effects</b>   |   |
| Eyes                                    | No known significant effects or critical hazards.   |
| Skin                                    | Harmful in contact with skin. May cause sensitization by skin contact.  |
| Inhalation                              | Toxic by inhalation. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  |
| Ingestion                               | Harmful if swallowed.   |
| <b>Potential chronic health effects</b> |   |
| Chronic effects                         |  Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.   |
| Carcinogenicity                         | No known significant effects or critical hazards.   |
| Mutagenicity                            | No known significant effects or critical hazards.   |
| Teratogenicity                          | No known significant effects or critical hazards.   |
| Developmental effects                   | No known significant effects or critical hazards.   |
| Fertility effects                       | No known significant effects or critical hazards.   |
| Inhalation                              | Adverse symptoms may include the following:<br>wheezing and breathing difficulties<br>asthma  |
| Ingestion                               | No specific data.   |
| Skin                                    | Adverse symptoms may include the following:<br>irritation<br>redness  |
| Eyes                                    | No specific data.   |



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**Medical conditions aggravated by over-exposure** ☒ Pre-existing respiratory and skin disorders may be aggravated by over-exposure to this product.

See toxicological information (section 11)

### 3. Composition/information on ingredients

| <u>Name</u>     | <u>CAS number</u> | <u>% by weight</u> |
|-----------------|-------------------|--------------------|
| Cy5 (NHS ester) |                   | 100                |

### Section 4. First aid measures

|                                   |   |
|-----------------------------------|---|
| <b>Eye contact</b>                | <input checked="" type="checkbox"/> Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.  |
| <b>Skin contact</b>               | <input checked="" type="checkbox"/> In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.   |
| <b>Inhalation</b>                 | <input checked="" type="checkbox"/> Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.  |
| <b>Ingestion</b>                  | <input checked="" type="checkbox"/> Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.  |
| <b>Protection of first-aiders</b> | No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

### Section 5. Fire fighting measures

|   |   |
|---|---|
| <b>Flammability of the product</b>                    | No specific fire or explosion hazard.   |
| <b>Extinguishing media</b>                            |   |
| <b>Suitable</b>                                       | Use an extinguishing agent suitable for the surrounding fire.   |
| <b>Not suitable</b>                                   | None known.   |
| <b>Special exposure hazards</b>                       | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| <b>Special protective equipment for fire-fighters</b> | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |

### Section 6. Accidental release measures

|                                  |   |
|----------------------------------|---|
| <b>Personal precautions</b>      | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). |
| <b>Environmental precautions</b> | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).   |
| <b>Methods for cleaning up</b>   | Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.                 |
| <b>Small spill</b>               | Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.   |

### Section 7. Handling and storage

|                 |  |
|-----------------|--|
| <b>Handling</b> | Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| <b>Storage</b>  | <input checked="" type="checkbox"/> Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.   |



## Section 8. Exposure controls/personal protection

### Consult local authorities for acceptable exposure limits.

|  |   |
|--|---|
| <b>Recommended monitoring procedures</b> | If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.  |
| <b>Engineering measures</b>              | Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.   |
| <b>Hygiene measures</b>                  | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |

### Personal protection

|  |  |
|--|--|
| <b>Respiratory</b>                     | Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.      |
| <b>Hands</b>                           | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  |
| <b>Eyes</b>                            | ✓ Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.   |
| <b>Skin</b>                            | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  |
| <b>Environmental exposure controls</b> | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

## Section 9. Physical and chemical properties

|                         |   |
|-------------------------|---|
| <b>Physical state</b>   | Solid.  |
| <b>Color</b>            | Blue.   |
| <b>Odor</b>             | Odorless.   |
| <b>Molecular weight</b> | 580.75  |
| <b>Volatility</b>       | 0% (w/w)  |
| <b>VOC</b>              | 0 (g/l).  |
| <b>Solubility</b>       | Soluble in the following materials: cold water and hot water. |

## Section 10. Stability and reactivity

|                                 |  |
|---------------------------------|--|
| <b>Stability</b>                | ✓ The product is stable.   |
| <b>Hazardous polymerization</b> | ✓ Under normal conditions of storage and use, hazardous polymerization will not occur.   |
| <b>Conditions of reactivity</b> | Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.<br>Not considered to be a product presenting a risk of explosion. |

## Section 11. Toxicological information

## Section 12. Ecological information

|                                   |   |
|-----------------------------------|---|
| <b>Environmental effects</b>      | No known significant effects or critical hazards. |
| <b><u>Aquatic ecotoxicity</u></b> |   |
| <b>Conclusion/Summary</b>         | Not available.                                    |
| <b><u>Biodegradability</u></b>    |   |
| <b>Conclusion/Summary</b>         | Not available.                                    |
| <b>Other adverse effects</b>      | No known significant effects or critical hazards. |

## Section 13. Disposal considerations

|                       |   |
|-----------------------|---|
| <b>Waste disposal</b> | ✓ The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. |
|-----------------------|---|

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.



## Section 14. Transport information

### International transport regulations

Not classified.

## Section 15. Regulatory information

### HCS Classification

Toxic material  
Sensitizing material

### U.S. Federal regulations

**United States inventory (TSCA 8b):** Not determined.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.

**SARA 302/304 emergency planning and notification:** No products were found.

**SARA 302/304/311/312 hazardous chemicals:** No products were found.

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** No products were found.

**Clean Water Act (CWA) 307:** No products were found.

**Clean Water Act (CWA) 311:** No products were found.

**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.

**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

### State regulations

**Connecticut Carcinogen Reporting:** None of the components are listed.

**Connecticut Hazardous Material Survey:** None of the components are listed.

**Florida substances:** None of the components are listed.

**Illinois Chemical Safety Act:** None of the components are listed.

**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.

**Louisiana Reporting:** None of the components are listed.

**Louisiana Spill:** None of the components are listed.

**Massachusetts Spill:** None of the components are listed.

**Massachusetts Substances:** None of the components are listed.

**Michigan Critical Material:** None of the components are listed.

**Minnesota Hazardous Substances:** None of the components are listed.

**New Jersey Hazardous Substances:** None of the components are listed.

**New Jersey Spill:** None of the components are listed.

**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.

**New York Acutely Hazardous Substances:** None of the components are listed.

**New York Toxic Chemical Release Reporting:** None of the components are listed.

**Pennsylvania RTK Hazardous Substances:** None of the components are listed.

**Rhode Island Hazardous Substances:** None of the components are listed.

### United States inventory (TSCA 8b)

☒ Not determined.

### EU regulations

#### Hazard symbol or symbols



#### Risk phrases

R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.  
R42/43- May cause sensitization by inhalation and skin contact.

#### Safety phrases

S22- Do not breathe dust.  
S36/37- Wear suitable protective clothing and gloves.  
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### International regulations

#### International lists

**Australia inventory (AICS):** Not determined.

**China inventory (IECSC):** Not determined.

**Japan inventory (ENCS):** Not determined.

**Japan inventory (ISHL):** Not determined.

**Korea inventory (KECI):** Not determined.

**New Zealand Inventory of Chemicals (NZIoC):** Not determined.

**Philippines inventory (PICCS):** Not determined.



## Section 16. Other information

### Label requirements

HARMFUL IF INHALED. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.

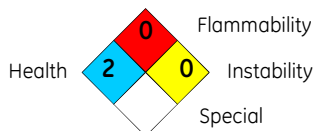
### Hazardous Material Information System (U.S.A.)

|                  |   |
|------------------|---|
| Health           | 2 |
| Flammability     | 0 |
| Physical hazards | 0 |
|                  |   |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.)



Indicates information that has changed from previously issued version.

### History

|                  |                  |                        |                 |
|------------------|------------------|------------------------|-----------------|
| Date of printing | 01 December 2009 | Date of previous issue | 23 January 2007 |
| Date of issue    | 01 December 2009 | Version                | 4               |

### Notice to reader

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