

# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

**Product name** Cy<sup>™</sup>5.5 Monomaleimide, 1 mg

Catalogue Number PA15631

EC number Not available. CAS number Not available. **Product description** Not available.

Solid. Product type

Other means of identification Not available.

Chemical formula C<sub>47</sub>H<sub>47</sub>K<sub>3</sub>N<sub>4</sub>O<sub>15</sub>S<sub>4</sub>

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

Identified uses

Use in laboratories

1.3 Details of the supplier of the safety data sheet

Supplier Cytiva Hours of operation Amersham Place 08.30 - 17.00

Little Chalfont Buckinghamshire HP7 9NA United Kingdom

+44 0800 515 313

Person who prepared the MSDS: sds\_author@cytiva.com

1.4 Emergency telephone number

001-352-323-3500 (Calll Collect).

United Kingdom (UK) Cytiva UK Call INFOTRAC 24 Hour number:

Amersham Place Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921

National advisory body/Poison Centre

United Kingdom (UK) Health professionals should contact the National Poisons Information Service (NPIS) by telephone,

or use TOXBASE www.toxbase.org .

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact:

In England and Wales: NHS Direct - 0845 4647 or 111

In Scotland: NHS 24 - 08454 24 24 24

In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www.

gpoutofhours.hscni.net/) for GP services Out-of-Hours.

# SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Product definition Mono-constituent substance

### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 3, H301 Resp. Sens. 1, H334 Skin Sens. 1, H317

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

Hazard pictograms





Signal word Danger

Hazard statements Toxic if swallowed.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

**Precautionary statements** 

Prevention Wear protective gloves. In case of inadequate ventilation wear respiratory protection. Avoid

breathing dust.

**Response** If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF SWALLOWED:

Immediately call a POISON CENTER or physician.

Storage Store locked up.

Disposal Dispose of contents and container in accordance with all local, regional, national and international

regulations.

Supplemental label elements Not applicable.

Annex XVII - Restrictions on the Not applicable.

manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

# Special packaging requirements

Containers to be fitted with child-resistant fastenings

Not applicable.

Tactile warning of danger Not applicable.

## 2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

PBT P B T vPvB vP vB No N/A N/A NO N/A N/A N/A N/A

Other hazards which do not None known.

result in classification

# SECTION 3: Composition/information on ingredients

#### 3.1 Substances Mono-constituent substance

			<u>Classification</u>	
Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Туре
Cy5.5 (mono-maleimide)	-	100	Acute Tox. 3, H301 Resp. Sens. 1, H334 Skin Sens. 1, H317 See Section 16 for the full text of the H statements declared above.	[A]

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There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

# **Type**

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

### SECTION 4: First aid measures

### 4.1 Description of first aid measures

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check

for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical

attention if irritation occurs.

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is

suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any

complaints or symptoms, avoid further exposure.

Skin contact Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash

contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid

further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** Get medical attention immediately. Call a poison center or physician. Wash out mouth with water.

Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders**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

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

#### Over-exposure signs/symptoms

Eye contact No specific data.

**Inhalation** Adverse symptoms may include the following:

wheezing and breathing difficulties

asthma

**Skin contact** Adverse symptoms may include the following:

irritation

redness

**Ingestion** No specific data.

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

Notes to physician In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed

person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** No specific treatment.

See toxicological information (Section 11)

# SECTION 5: Firefighting measures

# 5.1 Extinguishing media

Unsuitable extinguishing media None known.

# 5.2 Special hazards arising from the substance or mixture

Hazards from the substance or No specific fire or explosion hazard.

Hazardous combustion products

carbon dioxide nitrogen oxides sulfur oxides

carbon monoxide

metal oxide/oxides

5.3 Advice for firefighters

Special precautions for firefiahters

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.

Special protective equipment

for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

# SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate For non-emergency personnel

surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when

ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Decomposition products may include the following materials:

6.2 Environmental precautions

Avoid dispersal of spilt 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).

#### 6.3 Methods and material for containment and cleaning up

Small spill Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with

equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal

contractor

Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, Large spill

water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container.

Dispose of via a licensed waste disposal contractor.

6.4 Reference to other

sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

# SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

#### 7.1 Precautions for safe handling

Protective measures Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin

sensitisation 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.

Advice on general occupational

hygiene

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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

# 7.2 Conditions for safe storage, including any incompatibilities

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. Store locked up. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination

### Seveso Directive - Reporting thresholds (in tonnes)

Danger criteria

**Notification and MAPP** Category Safety report threshold

threshold

7.3 Specific end use(s)

Recommendations Analytical reagent. Research and Development

Industrial sector specific

solutions

Not available.

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# SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

## 8.1 Control parameters

### Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures

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. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### **DNELs/DMELs**

No DELs available.

#### **PNECs**

No PECs available.

#### 8.2 Exposure controls

Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### **Individual protection measures**

Hygiene measures

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### **Skin protection**

Hand protection

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** 

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.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, particulate filter 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.

**Environmental exposure** 

controls

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

## 9.1 Information on basic physical and chemical properties

#### **Appearance**

Physical state Solid.

Colour Blue. [Dark]

Odour Odourless.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

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Initial boiling point and boiling

range

Not available.

Flash point [Product does not sustain combustion.]

**Evaporation rate** Not available.

Flammability (solid, gas) 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.

Upper/lower flammability or

explosive limits

Not available.

Vapour pressure Not available. Vapour density Not available. Relative density Not available.

Solubility(ies) Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/

water

Not available.

**Auto-ignition temperature** Not available. **Decomposition temperature** Not available. **Viscosity** Not available.

Non-explosive in the presence of the following materials or conditions: open flames, sparks and **Explosive properties** 

static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials,

combustible materials, organic materials, metals, acids, alkalis and moisture.

**Oxidising properties** Not available.

9.2 Other information

**Burning time** Not available. **Burning rate** Not available. Solubility in water Not available. Molecular weight 1153.46 g/mole

# SECTION 10: Stability and reactivity

10.1 Reactivity No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous

reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid No specific data. 10.5 Incompatible materials No specific data.

10.6 Hazardous

produced.

decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be

# SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** 

Conclusion/Summary Not available.

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/ I)
Cy5.5 (mono-maleimide)	100	N/A	N/A	N/A	N/A

Irritation/Corrosion

Conclusion/Summary Not available.

**Sensitisation** 

Conclusion/Summary Not available.

**Mutagenicity** 

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary To the best of our knowledge, the toxicological properties of this substance have not been

thoroughly investigated.

Reproductive toxicity

Conclusion/Summary Not available.

**Teratogenicity** 

Conclusion/Summary Not available.

Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### **Aspiration hazard**

Not available.

Information on likely routes of

Routes of entry anticipated: Oral, Dermal, Inhalation.

exposure

#### Potential acute health effects

**Inhalation** May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to

decomposition products may cause a health hazard. Serious effects may be delayed following

exposure.

**Ingestion** Toxic if swallowed.

**Skin contact** May cause an allergic skin reaction.

Eye contact No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation** Adverse symptoms may include the following:

wheezing and breathing difficulties

asthma

**Ingestion** No specific data.

**Skin contact** Adverse symptoms may include the following:

irritation redness

Eye contact No specific data.

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

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

### Potential chronic health effects

Not available.

Conclusion/Summary Not available.

General Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low

levels.

CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.Developmental effectsNo known significant effects or critical hazards.Fertility effectsNo known significant effects or critical hazards.

Other information Not available.

# **SECTION 12: Ecological information**

### 12.1 Toxicity

Conclusion/Summary Not available.

#### 12.2 Persistence and degradability

Conclusion/Summary Not available.

#### 12.3 Bioaccumulative potential

Not available.

#### 12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility Not available.

### 12.5 Results of PBT and vPvB assessment

Product/ingredient namePBTPBTvPvBvPvBCy5.5 (mono-maleimide)NoN/AN/AN/AN/AN/AN/A

**12.6 Other adverse effects** No known significant effects or critical hazards.

# **SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

#### 13.1 Waste treatment methods

#### **Product**

Methods of disposal The generation of waste should be avoided or minimised wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the

requirements of all authorities with jurisdiction.

<u>Packaging</u>

Methods of disposal The generation of waste should be avoided or minimised wherever possible. Waste packaging

should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners

may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil,

waterways, drains and sewers.

# **SECTION 14: Transport information**

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN2811	UN2811	UN2811	UN2811
shipping name (Cy5.5 (mono-maleimide), (Cy5		Toxic solid, organic, n.o.s. (Cy5.5 (mono-maleimide), solid)	Toxic solid, organic, n.o.s. solid	Toxic solid, organic, n.o.s. (Cy5.5 (mono-maleimide), solid)
14.3 Transport hazard class(es)	6.1	6.1	6.1	6.1
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	Tunnel code E	-	-	-

14.6 Special precautions for user

**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not available.

# SECTION 15: Regulatory information

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

### EU Regulation (EC) No. 1907/2006 (REACH)

#### Annex XIV - List of substances subject to authorisation

#### **Annex XIV**

None of the components are listed.

# Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

#### Other EU regulations

Industrial emissions Not listed

(integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution

prevention and control) -

Water

Ozone depleting substances (1005/2009/EU)

Not listed.

#### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

#### **Seveso Directive**

This product is not controlled under the Seveso Directive.

#### **Danger criteria**

Category

# International regulations

## Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed

# Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

# Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### **UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

# **Inventory list**

Europe Not determined.
United States Not determined.
Canada inventory Not determined.
China Not determined.
Japan Not determined.
15.2 Chemical safety Not available.

assessment

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# SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

N/A = Not available

PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

vPvB = Very Persistent and Very Bioaccumulative

#### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Acute Tox. 3, H301 Resp. Sens. 1, H334 Skin Sens. 1, H317	Expert judgment Expert judgment Expert judgment

Full text of abbreviated H H301 Toxic if swallowed.

H317 May cause an allergic skin reaction. statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled. H334

Full text of classifications [CLP/ Acute Tox. 3, H301 ACUTE TOXICITY: ORAL - Category 3 GHS]

Resp. Sens. 1, H334 RESPIRATORY SENSITISATION - Category 1 Skin Sens. 1, H317 SKIN SENSITISATION - Category 1

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Version

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that