

## PyroMark Gold Q96 Reagents (50 x 96)

Version  
1.0

Revision Date:  
2023/06/30

Date of last issue: -  
Date of first issue: 2023/06/30

### Safety Data Sheet (SDS) cover letter for product:

#### PyroMark Gold Q96 Reagents (50 x 96)

Catalog number: 972807  
Document ID: 800000001610  
Country / Language: KR / EN

This product contains one or more components with related SDS, listed below. You can find the SDS for each component on the following pages.

#### Components with SDS:

- PyroMark Substrate Mixture Version: -
- PyroMark Enzyme Mixture Version: -
- PyroMark dATP $\alpha$ S Version: -
- PyroMark dCTP Version: -
- PyroMark dGTP Version: -
- PyroMark dTTP Version: -

Kind regards,  
Your QIAGEN Team

Email [cpc@qiagen.com](mailto:cpc@qiagen.com) | Website [www.qiagen.com/safety](http://www.qiagen.com/safety)

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
1.0Revision Date:  
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Product name : PyroMark Substrate Mixture

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

Recommended use : Laboratory chemicals

**Manufacturer or supplier's details**Company : QIAGEN GmbH  
QIAGEN Str. 1  
D-40724 Hilden

Telephone : +49-(0)2103-29-0

Responsible Department : QIAGEN Korea Ltd.  
5th Fl., Seoul Square 416  
Hangang-daero, Jung-Gu, Seoul 100-714, Korea  
Tel.: 080-000-7146  
<http://support.qiagen.com>E-mail address : [cpc@qiagen.com](mailto:cpc@qiagen.com)

Responsible/issuing person

Emergency telephone : CHEMTREC: +1 703-527-3887  
number CHEMTREC: 00-308-13-2549**2. HAZARDS IDENTIFICATION****GHS Classification**

Skin corrosion/irritation : Category 2

Serious eye damage/eye  
irritation : Category 2**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.  
H319 Causes serious eye irritation.Precautionary statements : **Prevention:**  
P280 Wear protective gloves/ protective clothing/ eye  
protection/ face protection.**Other hazards which do not result in classification**

No data available

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
acetic acid	acetic acid	64-19-7	>= 1 - < 3
potassium hydroxide	potassium hydroxide	1310-58-3	< 1
.alpha.-D-Glucopyranoside, .alpha.-D-glucopyranosyl, dihydrate	.alpha.-D-Glucopyranoside, .alpha.-D-glucopyranosyl, dihydrate	6138-23-4	>= 45 - < 50
magnesium acetate tetrahydrate	magnesium acetate tetrahydrate	16674-78-5	>= 30 - < 35
Polyvinyl pyrrolidone	Polyvinyl pyrrolidone	9003-39-8	>= 10 - < 15
(S)-4,5-dihydro-2-(6-hydroxybenzothiazol-2-yl)thiazole-4-carboxylic acid	(S)-4,5-dihydro-2-(6-hydroxybenzothiazol-2-yl)thiazole-4-carboxylic acid	2591-17-5	>= 1 - < 5
2-Amino-2-(hydroxymethyl)-1,3-propanediol	2-Amino-2-(hydroxymethyl)-1,3-propanediol	77-86-1	>= 1 - < 5

**4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.  
If symptoms persist, call a physician.
- If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- If swallowed : If accidentally swallowed obtain immediate medical attention.  
Rinse mouth with water.  
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Causes skin irritation.  
Causes serious eye irritation.  
May cause damage to organs through prolonged or repeated exposure.

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Notes to physician : No information available.  
: No information available.

### 5. FIREFIGHTING MEASURES

#### Suitable and unsuitable extinguishing media

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Specific hazards during firefighting : Exposure to decomposition products may be a hazard to health.
- Hazardous combustion products : Carbon oxides  
Magnesium oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Specific extinguishing methods : In the event of fire and/or explosion do not breathe fumes.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Avoid dust formation.  
Avoid breathing dust.  
Ensure adequate ventilation.  
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.  
Use mechanical handling equipment.

### 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation.  
Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
- Further information on storage stability : Keep in a dry place.  
No decomposition if stored and applied as directed.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
acetic acid	64-19-7	TWA	10 ppm	KR OEL
		STEL	15 ppm	KR OEL
		TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
potassium hydroxide	1310-58-3	C	2 mg/m <sup>3</sup>	KR OEL
		C	2 mg/m <sup>3</sup>	ACGIH

Other ingredients, which are listed in section 3 but not listed in this section, do not have established occupational exposure limit values.

**Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.**

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.  
Dust safety masks are recommended when the dust concentration is more than 10 mg/m<sup>3</sup>.
- Eye protection : Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.  
Do not wear contact lenses.  
Ensure that eyewash stations and safety showers are close to the workstation location.
- Hand protection
- Material : Protective gloves
- Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Footwear protecting against chemicals
- Hygiene measures : Keep away from food and drink.  
Wash hands before breaks and at the end of workday.  
Ensure adequate ventilation, especially in confined areas.  
Keep working clothes separately.  
Avoid contact with the skin and the eyes.  
When using do not eat, drink or smoke.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : powder, (lyophilised)
- Colour : No data available
- Odour : No information available.

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Odour Threshold	:	No data available
pH	:	No data available
	:	No data available
	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Solubility(ies)		
Water solubility	:	Not applicable
Solubility in other solvents	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

**10. STABILITY AND REACTIVITY**

Chemical stability and possibility of hazardous reactions	:	No decomposition if stored and applied as directed. No decomposition if stored and applied as directed. Stable under recommended storage conditions. Hazardous decomposition products formed under fire
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	conditions.
	Dust may form explosive mixture in air.
	Keep away from oxidizing agents, and acidic or alkaline products.
Conditions to avoid	: No data available
Incompatible materials	: No data available
Hazardous decomposition products	: No decomposition if stored and applied as directed.

### 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data available

#### Health hazard information

##### Acute toxicity

##### Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

##### Components:

##### **acetic acid:**

Acute oral toxicity : LD50 Oral (Rat): 3,310 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): 1,112 mg/kg

##### **potassium hydroxide:**

Acute oral toxicity : LD50 Oral (Rat): 333 mg/kg

##### **Polyvinyl pyrrolidone:**

Acute oral toxicity : LD50 Oral (Rat): 100,000 mg/kg

##### **2-Amino-2-(hydroxymethyl)-1,3-propanediol:**

Acute oral toxicity : LD50 Oral (Rat): 5,900 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 402

##### **Skin corrosion/irritation**

Causes skin irritation.

##### Product:

Remarks : May irritate skin.

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Result : No skin irritation**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Product:**

Remarks : May cause irreversible eye damage.

**Components:****Polyvinyl pyrrolidone:**Species : Rabbit  
Result : No eye irritation**Respiratory or skin sensitisation****Product:**

Remarks : No data available

**Components:****acetic acid:**

Remarks : May cause sensitisation by inhalation and skin contact.

**Carcinogenicity**

No data available

**Germ cell mutagenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity**

No data available

**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

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No data available

**Further information****Product:**

Remarks : No data available

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**12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**Toxicity to fish :  
Remarks: No data availableToxicity to algae/aquatic plants :  
Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

**Components:****acetic acid:**Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,000 mg/l  
Exposure time: 96 h  
Test Type: semi-static testToxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 300.82 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202**potassium hydroxide:**Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 80 mg/l  
Exposure time: 96 h**2-Amino-2-(hydroxymethyl)-1,3-propanediol:**Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 980 mg/l  
Exposure time: 48 h**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: No data available

**Mobility in soil**

No data available

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### Other adverse effects

#### **Product:**

Additional ecological information : No data available

## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Dispose of as unused product. Do not re-use empty containers.

### Disposal precautions

Dispose of contents and container according to wastes control act.

## 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable

#### **IATA-DGR**

UN/ID No. : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Packing instruction (cargo aircraft) : Not applicable  
Packing instruction (passenger aircraft) : Not applicable

#### **IMDG-Code**

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
EmS Code : Not applicable  
Marine pollutant : Not applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

Refer to section 15 for specific national regulation.

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Remarks : Not classified as dangerous in the meaning of transport regulations.

**15. REGULATORY INFORMATION****National regulatory information****Regulation under the Occupational Safety and Health Act****Harmful Substances Prohibited from Manufacturing**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Harmful Agents to be kept below Occupational Exposure Limits**

Chemical name	CAS-No.
Acetic acid	64-19-7
Potassium hydroxide	1310-58-3

**Harmful Agents Required to be kept below Permission Levels**

Not applicable

**Hazardous substances requiring management**

Chemical name	CAS-No.	Threshold limits (%)
Acetic acid	64-19-7	$\geq 1\%$

**Special Management Materials**

Not applicable

**Controlled Substances Subject to Environment Monitoring**

Chemical name	CAS-No.	Threshold limits (%)
Acetic acid	64-19-7	$\geq 1\%$

**Controlled Substances Subject to Health Examination**

Not applicable

**Regulation under the Chemicals Control Act****Toxic Chemicals**

Not applicable

**Restricted Chemicals**

Not applicable

**Prohibited Chemicals**

Not applicable

**Toxic Release Inventory**

Chemical name	CAS-No.	Group	Threshold limits (%)
Acetic acid	64-19-7	Group II	$\geq 1\%$

**Accident Precaution Chemicals**

Not applicable

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### Dangerous Substances Safety Management Act

Not Applicable to Dangerous Materials

### Wastes Control Act

Industrial general wastes

Follow article 13 of the act to dispose the product waste

### Other requirements in domestic and other countries

## 16. OTHER INFORMATION

### Further information

SDS Number : 600000001623

Issuing date : 2014/03/13

### Revision number and date

Number of Revision : 1.0

Revision Date : 2023/06/30

Date format : yyyy/mm/dd

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

KR OEL : Harmful Agents to be kept below Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average

ACGIH / STEL : Short-term exposure limit

ACGIH / C : Ceiling limit

KR OEL / TWA : Time Weighted Average

KR OEL / STEL : Short Term Exposure Limit

KR OEL / C : Ceiling

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution

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Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

KR / EN

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Product name : PyroMark Enzyme Mixture

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

Recommended use : Laboratory chemicals

**Manufacturer or supplier's details**Company : QIAGEN GmbH  
QIAGEN Str. 1  
D-40724 Hilden

Telephone : +49-(0)2103-29-0

Responsible Department : QIAGEN Korea Ltd.  
5th Fl., Seoul Square 416  
Hangang-daero, Jung-Gu, Seoul 100-714, Korea  
Tel.: 080-000-7146  
<http://support.qiagen.com>E-mail address : [cpc@qiagen.com](mailto:cpc@qiagen.com)

Responsible/issuing person

Emergency telephone number : CHEMTREC: +1 703-527-3887  
CHEMTREC: 00-308-13-2549**2. HAZARDS IDENTIFICATION****GHS Classification**

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.  
H318 Causes serious eye damage.Precautionary statements : **Prevention:**  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.**Response:**  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON

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CENTER/ doctor.

**Other hazards which do not result in classification**

No data available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
acetic acid	acetic acid	64-19-7	>= 3 - < 5
ammonium sulphate	ammonium sulphate	7783-20-2	>= 1 - < 5
(R*,R*)-1,4-dimercaptobutane-2,3-diol	(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	>= 1 - < 5
.alpha.-D-Glucopyranoside, .alpha.-D-glucopyranosyl, dihydrate	.alpha.-D-Glucopyranoside, .alpha.-D-glucopyranosyl, dihydrate	6138-23-4	>= 60 - < 65
Polyvinyl pyrrolidone	Polyvinyl pyrrolidone	9003-39-8	>= 10 - < 15
2-Amino-2-(hydroxymethyl)-1,3-propanediol	2-Amino-2-(hydroxymethyl)-1,3-propanediol	77-86-1	>= 5 - < 10
sodium chloride	sodium chloride	7647-14-5	>= 5 - < 10
magnesium acetate tetrahydrate	magnesium acetate tetrahydrate	16674-78-5	>= 1 - < 5

**4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Remove contact lenses.  
Protect unharmed eye.
- In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.  
If symptoms persist, call a physician.
- If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- If swallowed : If accidentally swallowed obtain immediate medical attention.  
Rinse mouth with water.

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Most important symptoms and effects, both acute and delayed	:	Never give anything by mouth to an unconscious person. No information available. Causes skin irritation. Causes serious eye damage.
Notes to physician	:	No information available.

### 5. FIREFIGHTING MEASURES

#### Suitable and unsuitable extinguishing media

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses. Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NO <sub>x</sub> ) None Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Sulphur oxides Magnesium oxides
Specific extinguishing methods	:	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

### 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated

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Further information on storage stability : place.  
: No decomposition if stored and applied as directed.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
acetic acid	64-19-7	TWA	10 ppm	KR OEL
		STEL	15 ppm	KR OEL
		TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
ammonium sulphate	7783-20-2	TWA	10 mg/m <sup>3</sup>	KR OEL
		STEL	20 mg/m <sup>3</sup>	KR OEL

Other ingredients, which are listed in section 3 but not listed in this section, do not have established occupational exposure limit values.

**Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.**

Eye protection : Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.  
Do not wear contact lenses.  
Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

Material : Protective gloves

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
acid-resistant protective clothing  
Footwear protecting against chemicals

Hygiene measures : Keep away from food and drink.  
Wash hands before breaks and at the end of workday.  
Ensure adequate ventilation, especially in confined areas.  
Avoid contact with the skin and the eyes.  
When using do not eat, drink or smoke.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : No data available

Odour : No data available

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Odour Threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

**10. STABILITY AND REACTIVITY**

Chemical stability and possibility of hazardous reactions	:	No decomposition if stored and applied as directed. No decomposition if stored and applied as directed. Stable under recommended storage conditions. Hazardous decomposition products formed under fire
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conditions.  
Keep away from oxidizing agents, and acidic or alkaline products.

Conditions to avoid : No data available  
Incompatible materials : No data available  
Hazardous decomposition products : No decomposition if stored and applied as directed.

**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : No data available

**Health hazard information****Acute toxicity****Product:**

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

**Components:****acetic acid:**

Acute oral toxicity : LD50 Oral (Rat): 3,310 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): 1,112 mg/kg

**ammonium sulphate:**

Acute oral toxicity : LD50 Oral (Rat): 2,840 mg/kg

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Acute oral toxicity : LD50 Oral (Rat): 400 mg/kg

**Polyvinyl pyrrolidone:**

Acute oral toxicity : LD50 Oral (Rat): 100,000 mg/kg

**2-Amino-2-(hydroxymethyl)-1,3-propanediol:**

Acute oral toxicity : LD50 Oral (Rat): 5,900 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 402

**sodium chloride:**

Acute dermal toxicity : LD50 Dermal (Rabbit): > 10,000 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

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Remarks : May irritate skin.

**Components:****ammonium sulphate:**Species : Rabbit  
Result : No skin irritation**Polyvinyl pyrrolidone:**Species : Rabbit  
Result : No skin irritation**Serious eye damage/eye irritation**

Causes serious eye damage.

**Product:**

Remarks : May cause irreversible eye damage.

**Components:****ammonium sulphate:**Species : Rabbit  
Result : No eye irritation**Polyvinyl pyrrolidone:**Species : Rabbit  
Result : No eye irritation**Respiratory or skin sensitisation****Product:**

Remarks : No data available

**Components:****acetic acid:**

Remarks : May cause sensitisation by inhalation and skin contact.

**Carcinogenicity**

No data available

**Germ cell mutagenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
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Date of first issue: 2023/06/30**STOT - repeated exposure**

No data available

**Repeated dose toxicity**

No data available

**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks : No data available

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**Toxicity to fish :  
Remarks: No data availableToxicity to algae/aquatic plants :  
Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

**Components:****acetic acid:**Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,000 mg/l  
Exposure time: 96 h  
Test Type: semi-static testToxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 300.82 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202**ammonium sulphate:**Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 681 mg/l  
Exposure time: 96 h**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 27 mg/l  
Exposure time: 48 h

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
1.0Revision Date:  
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Date of first issue: 2023/06/30**2-Amino-2-(hydroxymethyl)-1,3-propanediol:**Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 980 mg/l  
Exposure time: 48 h**sodium chloride:**Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 5,840 mg/l  
Exposure time: 96 hToxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,661 mg/l  
Exposure time: 48 h**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: No data available

**Components:****ammonium sulphate:**

Partition coefficient: n-octanol/water : log Pow: -5.1

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Partition coefficient: n-octanol/water : log Pow: -0.48

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Additional ecological information : No data available

**13. DISPOSAL CONSIDERATIONS****Disposal methods**Waste from residues : Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and national regulations.Contaminated packaging : Dispose of as unused product.  
Do not re-use empty containers.**Disposal precautions**

Dispose of contents and container according to wastes control act.

**14. TRANSPORT INFORMATION****International Regulations**

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2023/06/30Date of last issue: -  
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UN number : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable

**IATA-DGR**

UN/ID No. : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 Packing instruction (cargo aircraft) : Not applicable  
 Packing instruction (passenger aircraft) : Not applicable

**IMDG-Code**

UN number : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 EmS Code : Not applicable  
 Marine pollutant : Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

Refer to section 15 for specific national regulation.

**Special precautions for user**

Remarks : Not classified as dangerous in the meaning of transport regulations.

**15. REGULATORY INFORMATION****National regulatory information****Regulation under the Occupational Safety and Health Act****Harmful Substances Prohibited from Manufacturing**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Harmful Agents to be kept below Occupational Exposure Limits**

Chemical name	CAS-No.
Acetic acid	64-19-7
Ammonium Sulfate	7783-20-2

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**Harmful Agents Required to be kept below Permission Levels**

Not applicable

**Hazardous substances requiring management**

Chemical name	CAS-No.	Threshold limits (%)
Acetic acid	64-19-7	>= 1 %

**Special Management Materials**

Not applicable

**Controlled Substances Subject to Environment Monitoring**

Chemical name	CAS-No.	Threshold limits (%)
Acetic acid	64-19-7	>= 1 %

**Controlled Substances Subject to Health Examination**

Not applicable

**Regulation under the Chemicals Control Act**
**Toxic Chemicals**

Not applicable

**Restricted Chemicals**

Not applicable

**Prohibited Chemicals**

Not applicable

**Toxic Release Inventory**

Chemical name	CAS-No.	Group	Threshold limits (%)
Acetic acid	64-19-7	Group II	>= 1 %

**Accident Precaution Chemicals**

Not applicable

**Dangerous Substances Safety Management Act**

Not Applicable to Dangerous Materials

**Wastes Control Act**

Industrial general wastes

Follow article 13 of the act to dispose the product waste

**Other requirements in domestic and other countries**
**16. OTHER INFORMATION**
**Further information**

SDS Number : 600000001624

Issuing date : 2014/03/13

**Revision number and date**

Number of Revision : 1.0

Revision Date : 2023/06/30

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Date format : yyyy/mm/dd

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
 KR OEL : Harmful Agents to be kept below Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average  
 ACGIH / STEL : Short-term exposure limit  
 KR OEL / TWA : Time Weighted Average  
 KR OEL / STEL : Short Term Exposure Limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

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## PyroMark Gold Q96 Reagents (50 x 96)

Version  
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Date of first issue: 2023/06/30

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PyroMark dATP $\alpha$ S

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

Recommended use : Laboratory chemicals

#### Manufacturer or supplier's details

Company : QIAGEN GmbH  
QIAGEN Str. 1  
D-40724 Hilden

Telephone : +49-(0)2103-29-0

Responsible Department : QIAGEN Korea Ltd.  
5th Fl., Seoul Square 416  
Hangang-daero, Jung-Gu, Seoul 100-714, Korea  
Tel.: 080-000-7146  
<http://support.qiagen.com>E-mail address : [cpc@qiagen.com](mailto:cpc@qiagen.com)

Responsible/issuing person

Emergency telephone number : CHEMTREC: +1 703-527-3887  
CHEMTREC: 00-308-13-2549

### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Not applicable

#### GHS label elements

Hazard pictograms : Not applicable

Signal word : Not applicable

Hazard statements : Not applicable

Precautionary statements : Not applicable

#### Other hazards which do not result in classification

No data available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
water	water	7732-18-5	>= 80 - < 85
2'- Deoxyadenosine- 5'- O- (1-thiotriphosphate), Sp- isomer ( Sp-dATP- $\alpha$ -S ), sodium salt	2'- Deoxyadenosine- 5'- O- (1-	80875-87-2	>= 15 - < 20

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	thiotriphosphate), Sp-isomer ( Sp-dATP- $\alpha$ -S ), sodium salt		
--	--	--	--

No hazardous ingredients

### 4. FIRST AID MEASURES

General advice	: Show this safety data sheet to the doctor in attendance.
In case of eye contact	: Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
If inhaled	: Move to fresh air. If symptoms persist, call a physician.
If swallowed	: If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	: No information available.
Notes to physician	: No information available.

### 5. FIREFIGHTING MEASURES

#### Suitable and unsuitable extinguishing media

Suitable extinguishing media	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during firefighting	: Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	: No hazardous combustion products are known
Specific extinguishing methods	: In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Environmental precautions	: Do not allow uncontrolled discharge of product into the environment.
Methods and materials for containment and cleaning up	: Keep in suitable, closed containers for disposal.

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- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
- Further information on storage stability : No decomposition if stored and applied as directed.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.**

- Eye protection : Safety glasses
- Hand protection

- Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals
- Hygiene measures : Keep away from food and drink. When using do not eat, drink or smoke.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : liquid
- Colour : No data available
- Odour : No information available.
- Odour Threshold : No data available
- pH : No data available
- : No data available
- : No data available
- Flash point : No data available
- Evaporation rate : No data available
- Burning rate : No data available

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Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available

**10. STABILITY AND REACTIVITY**

Chemical stability and possibility of hazardous reactions	:	No decomposition if stored and applied as directed. No decomposition if stored and applied as directed. Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions.
Conditions to avoid	:	No data available No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : No data available

**Health hazard information**
**Acute toxicity**
**Product:**

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Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

**Components:****water:**

Acute oral toxicity : LD50 Oral (Rat): &gt; 5,000 mg/kg

**Skin corrosion/irritation****Product:**

Remarks : May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation****Product:**

Remarks : May irritate eyes.

**Respiratory or skin sensitisation****Product:**

Remarks : No data available

**Carcinogenicity**

No data available

**Germ cell mutagenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated dose toxicity**

No data available

**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

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Date of first issue: 2023/06/30**Further information****Product:**

Remarks : No data available

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**Toxicity to fish :  
Remarks: No data availableToxicity to algae/aquatic plants :  
Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: No data available

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Additional ecological information : No data available

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Disposal precautions**

Dispose of contents and container according to wastes control act.

**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable

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Packing group : Not applicable  
Labels : Not applicable

**IATA-DGR**

UN/ID No. : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Packing instruction (cargo aircraft) : Not applicable  
Packing instruction (passenger aircraft) : Not applicable

**IMDG-Code**

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
EmS Code : Not applicable  
Marine pollutant : Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

Refer to section 15 for specific national regulation.

**Special precautions for user**

Remarks : Not classified as dangerous in the meaning of transport regulations.

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**15. REGULATORY INFORMATION**
**National regulatory information****Regulation under the Occupational Safety and Health Act****Harmful Substances Prohibited from Manufacturing**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Harmful Agents to be kept below Occupational Exposure Limits**

Not applicable

**Harmful Agents Required to be kept below Permission Levels**

Not applicable

**Hazardous substances requiring management**

Not applicable

**Special Management Materials**

Not applicable

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2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30**Controlled Substances Subject to Environment Monitoring**

Not applicable

**Controlled Substances Subject to Health Examination**

Not applicable

**Regulation under the Chemicals Control Act****Toxic Chemicals**

Not applicable

**Restricted Chemicals**

Not applicable

**Prohibited Chemicals**

Not applicable

**Toxic Release Inventory**

Not applicable

**Accident Precaution Chemicals**

Not applicable

**Dangerous Substances Safety Management Act**

Not Applicable to Dangerous Materials

**Wastes Control Act**

Industrial general wastes

Follow article 13 of the act to dispose the product waste

**Other requirements in domestic and other countries****16. OTHER INFORMATION****Further information**

SDS Number : 600000001625

Issuing date : 2023/06/30

**Revision number and date**

Number of Revision : 1.0

Revision Date : 2023/06/30

Date format : yyyy/mm/dd

**Full text of other abbreviations**

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and

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Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : PyroMark dCTP

**Manufacturer or supplier's details**Company : QIAGEN GmbH  
QIAGEN Str. 1  
D-40724 Hilden

Telephone : +49-(0)2103-29-0

Responsible Department : QIAGEN Korea Ltd.  
5th Fl., Seoul Square 416  
Hangang-daero, Jung-Gu, Seoul 100-714, Korea  
Tel.: 080-000-7146  
<http://support.qiagen.com>E-mail address : [cpc@qiagen.com](mailto:cpc@qiagen.com)

Responsible/issuing person

Emergency telephone number : CHEMTREC: +1 703-527-3887  
CHEMTREC: 00-308-13-2549**2. HAZARDS IDENTIFICATION****GHS Classification**

Not applicable

**GHS label elements**

Hazard pictograms : Not applicable

Signal word : Not applicable

Hazard statements : Not applicable

Precautionary statements : Not applicable

**Other hazards which do not result in classification**

No data available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Components**

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
water	water	7732-18-5	>= 95 - <= 100

No hazardous ingredients

**4. FIRST AID MEASURES**

General advice : Show this safety data sheet to the doctor in attendance.

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In case of eye contact	:	Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
In case of skin contact	:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
If inhaled	:	Move to fresh air. If symptoms persist, call a physician.
If swallowed	:	If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No information available.
Notes to physician	:	No information available.

### 5. FIREFIGHTING MEASURES

#### Suitable and unsuitable extinguishing media

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during firefighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Environmental precautions	:	Do not allow uncontrolled discharge of product into the environment.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

### 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Further information on storage stability	:	No decomposition if stored and applied as directed.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

**Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.**

Eye protection : Safety glasses

Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Footwear protecting against chemicals

Hygiene measures : Keep away from food and drink.  
When using do not eat, drink or smoke.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : No data available

Odour Threshold : No data available

pH : No data available

: No data available

: No data available

Flash point : No data available

Evaporation rate : No data available

Burning rate : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

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Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

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**10. STABILITY AND REACTIVITY**

Chemical stability and possibility of hazardous reactions	:	No decomposition if stored and applied as directed. No decomposition if stored and applied as directed. Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

---

**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : No data available

**Health hazard information****Acute toxicity****Product:**

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

**Components:****water:**

Acute oral toxicity	:	LD50 Oral (Rat): > 5,000 mg/kg
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**PyroMark Gold Q96 Reagents (50 x 96)**Version  
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Date of first issue: 2023/06/30**Skin corrosion/irritation****Product:**

Remarks : May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation****Product:**

Remarks : May irritate eyes.

**Respiratory or skin sensitisation****Product:**

Remarks : No data available

**Carcinogenicity**

No data available

**Germ cell mutagenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated dose toxicity**

No data available

**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks : No data available

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
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Date of first issue: 2023/06/30**12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**Toxicity to fish :  
Remarks: No data availableToxicity to algae/aquatic plants :  
Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: No data available

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Additional ecological information : No data available

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Disposal precautions**

Dispose of contents and container according to wastes control act.

**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable**IATA-DGR**

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UN/ID No. : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 Packing instruction (cargo aircraft) : Not applicable  
 Packing instruction (passenger aircraft) : Not applicable

**IMDG-Code**

UN number : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 EmS Code : Not applicable  
 Marine pollutant : Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

Refer to section 15 for specific national regulation.

**Special precautions for user**

Remarks : Not classified as dangerous in the meaning of transport regulations.

**15. REGULATORY INFORMATION****National regulatory information****Regulation under the Occupational Safety and Health Act****Harmful Substances Prohibited from Manufacturing**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Harmful Agents to be kept below Occupational Exposure Limits**

Not applicable

**Harmful Agents Required to be kept below Permission Levels**

Not applicable

**Hazardous substances requiring management**

Not applicable

**Special Management Materials**

Not applicable

**Controlled Substances Subject to Environment Monitoring**

Not applicable

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30**Controlled Substances Subject to Health Examination**

Not applicable

**Regulation under the Chemicals Control Act****Toxic Chemicals**

Not applicable

**Restricted Chemicals**

Not applicable

**Prohibited Chemicals**

Not applicable

**Toxic Release Inventory**

Not applicable

**Accident Precaution Chemicals**

Not applicable

**Dangerous Substances Safety Management Act**

Not Applicable to Dangerous Materials

**Wastes Control Act**

Industrial general wastes

Follow article 13 of the act to dispose the product waste

**Other requirements in domestic and other countries****16. OTHER INFORMATION****Further information**

SDS Number : 600000001626

Issuing date : 2023/06/30

**Revision number and date**

Number of Revision : 1.0

Revision Date : 2023/06/30

Date format : yyyy/mm/dd

**Full text of other abbreviations**

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
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International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

KR / EN

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Version  
1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30
**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : PyroMark dGTP

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

Recommended use : Laboratory chemicals

**Manufacturer or supplier's details**
Company : QIAGEN GmbH  
QIAGEN Str. 1  
D-40724 Hilden

Telephone : +49-(0)2103-29-0

Responsible Department : QIAGEN Korea Ltd.  
5th Fl., Seoul Square 416  
Hangang-daero, Jung-Gu, Seoul 100-714, Korea  
Tel.: 080-000-7146  
<http://support.qiagen.com>E-mail address : [cpc@qiagen.com](mailto:cpc@qiagen.com)

Responsible/issuing person

Emergency telephone number : CHEMTREC: +1 703-527-3887  
CHEMTREC: 00-308-13-2549
**2. HAZARDS IDENTIFICATION**
**GHS Classification**

Not applicable

**GHS label elements**

Hazard pictograms : Not applicable

Signal word : Not applicable

Hazard statements : Not applicable

Precautionary statements : Not applicable

**Other hazards which do not result in classification**

No data available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
water	water	7732-18-5	>= 95 - <= 100

No hazardous ingredients

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### 4. FIRST AID MEASURES

General advice	:	Show this safety data sheet to the doctor in attendance.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
In case of skin contact	:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
If inhaled	:	Move to fresh air. If symptoms persist, call a physician.
If swallowed	:	If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No information available.
Notes to physician	:	No information available.

### 5. FIREFIGHTING MEASURES

#### Suitable and unsuitable extinguishing media

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during firefighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Environmental precautions	:	Do not allow uncontrolled discharge of product into the environment.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

### 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
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Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

Further information on storage stability : No decomposition if stored and applied as directed.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

**Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.**

Eye protection : Safety glasses  
Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Footwear protecting against chemicals

Hygiene measures : Keep away from food and drink.  
When using do not eat, drink or smoke.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : No data available

Odour : No information available.

Odour Threshold : No data available

pH : No data available

: No data available

: No data available

Flash point : No data available

Evaporation rate : No data available

Burning rate : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

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Vapour pressure : No data available

Solubility(ies)  
Water solubility : No data available

Solubility in other solvents : No data available

Relative vapour density : No data available

Relative density : No data available

Density : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity  
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

**10. STABILITY AND REACTIVITY**

Chemical stability and possibility of hazardous reactions : No decomposition if stored and applied as directed.  
No decomposition if stored and applied as directed.  
Stable under recommended storage conditions.  
Hazardous decomposition products formed under fire conditions.

Conditions to avoid : No data available  
No data available

Incompatible materials : No data available

Hazardous decomposition products : No decomposition if stored and applied as directed.

**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : No data available

**Health hazard information****Acute toxicity****Product:**

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30**Components:****water:**

Acute oral toxicity : LD50 Oral (Rat): &gt; 5,000 mg/kg

**Skin corrosion/irritation****Product:**

Remarks : May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation****Product:**

Remarks : May irritate eyes.

**Respiratory or skin sensitisation****Product:**

Remarks : No data available

**Carcinogenicity**

No data available

**Germ cell mutagenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated dose toxicity**

No data available

**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks : No data available

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30**12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**Toxicity to fish :  
Remarks: No data availableToxicity to algae/aquatic plants :  
Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: No data available

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Additional ecological information : No data available

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Disposal precautions**

Dispose of contents and container according to wastes control act.

**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable**IATA-DGR**

## PyroMark Gold Q96 Reagents (50 x 96)

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Date of last issue: -  
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UN/ID No. : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 Packing instruction (cargo aircraft) : Not applicable  
 Packing instruction (passenger aircraft) : Not applicable

### IMDG-Code

UN number : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 EmS Code : Not applicable  
 Marine pollutant : Not applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

Refer to section 15 for specific national regulation.

### Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

## 15. REGULATORY INFORMATION

### National regulatory information

#### Regulation under the Occupational Safety and Health Act

#### Harmful Substances Prohibited from Manufacturing

Not applicable

#### Harmful Substances Required Permission for Manufacture

Not applicable

#### Harmful Agents to be kept below Occupational Exposure Limits

Not applicable

#### Harmful Agents Required to be kept below Permission Levels

Not applicable

#### Hazardous substances requiring management

Not applicable

#### Special Management Materials

Not applicable

#### Controlled Substances Subject to Environment Monitoring

Not applicable

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30**Controlled Substances Subject to Health Examination**

Not applicable

**Regulation under the Chemicals Control Act****Toxic Chemicals**

Not applicable

**Restricted Chemicals**

Not applicable

**Prohibited Chemicals**

Not applicable

**Toxic Release Inventory**

Not applicable

**Accident Precaution Chemicals**

Not applicable

**Dangerous Substances Safety Management Act**

Not Applicable to Dangerous Materials

**Wastes Control Act**

Industrial general wastes

Follow article 13 of the act to dispose the product waste

**Other requirements in domestic and other countries****16. OTHER INFORMATION****Further information**

SDS Number : 600000001627

Issuing date : 2023/06/30

**Revision number and date**

Number of Revision : 1.0

Revision Date : 2023/06/30

Date format : yyyy/mm/dd

**Full text of other abbreviations**

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -

**PyroMark Gold Q96 Reagents (50 x 96)**Version  
1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30

International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

KR / EN

**PyroMark Gold Q96 Reagents (50 x 96)**
Version  
1.0Revision Date:  
2023/06/30Date of last issue: -  
Date of first issue: 2023/06/30
**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : PyroMark dTTP

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

Recommended use : Laboratory chemicals

**Manufacturer or supplier's details**
Company : QIAGEN GmbH  
QIAGEN Str. 1  
D-40724 Hilden

Telephone : +49-(0)2103-29-0

Responsible Department : QIAGEN Korea Ltd.  
5th Fl., Seoul Square 416  
Hangang-daero, Jung-Gu, Seoul 100-714, Korea  
Tel.: 080-000-7146  
<http://support.qiagen.com>E-mail address : [cpc@qiagen.com](mailto:cpc@qiagen.com)

Responsible/issuing person

Emergency telephone number : CHEMTREC: +1 703-527-3887  
CHEMTREC: 00-308-13-2549
**2. HAZARDS IDENTIFICATION**
**GHS Classification**

Not applicable

**GHS label elements**

Hazard pictograms : Not applicable

Signal word : Not applicable

Hazard statements : Not applicable

Precautionary statements : Not applicable

**Other hazards which do not result in classification**

No data available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
water	water	7732-18-5	>= 95 - <= 100

No hazardous ingredients

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### 4. FIRST AID MEASURES

General advice	:	Show this safety data sheet to the doctor in attendance.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
In case of skin contact	:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
If inhaled	:	Move to fresh air. If symptoms persist, call a physician.
If swallowed	:	If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No information available.
Notes to physician	:	No information available.

### 5. FIREFIGHTING MEASURES

#### Suitable and unsuitable extinguishing media

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during firefighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Environmental precautions	:	Do not allow uncontrolled discharge of product into the environment.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

### 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
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Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

Further information on storage stability : No decomposition if stored and applied as directed.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

**Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.**

Eye protection : Safety glasses  
Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Footwear protecting against chemicals

Hygiene measures : Keep away from food and drink.  
When using do not eat, drink or smoke.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : No data available

Odour : No information available.

Odour Threshold : No data available

pH : No data available

: No data available

: No data available

Flash point : No data available

Evaporation rate : No data available

Burning rate : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

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Vapour pressure	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

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**10. STABILITY AND REACTIVITY**

Chemical stability and possibility of hazardous reactions	:	No decomposition if stored and applied as directed. No decomposition if stored and applied as directed. Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions.
Conditions to avoid	:	No data available No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

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**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : No data available

**Health hazard information****Acute toxicity****Product:**

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

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Acute oral toxicity : LD50 Oral (Rat): &gt; 5,000 mg/kg

**Skin corrosion/irritation****Product:**

Remarks : May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation****Product:**

Remarks : May irritate eyes.

**Respiratory or skin sensitisation****Product:**

Remarks : No data available

**Carcinogenicity**

No data available

**Germ cell mutagenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated dose toxicity**

No data available

**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks : No data available

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Remarks: No data availableToxicity to algae/aquatic plants :  
Remarks: No data availableToxicity to microorganisms :  
Remarks: No data available**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**Bioaccumulation :  
Remarks: No data available**Mobility in soil**

No data available

**Other adverse effects****Product:**Additional ecological information :  
No data available**13. DISPOSAL CONSIDERATIONS****Disposal methods**Waste from residues :  
Dispose of contents/container in accordance with local regulation.Contaminated packaging :  
Empty containers should be taken to an approved waste handling site for recycling or disposal.**Disposal precautions**

Dispose of contents and container according to wastes control act.

**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**UN number :  
Not applicable  
Proper shipping name :  
Not applicable  
Class :  
Not applicable  
Subsidiary risk :  
Not applicable  
Packing group :  
Not applicable  
Labels :  
Not applicable**IATA-DGR**

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UN/ID No. : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Packing instruction (cargo aircraft) : Not applicable  
Packing instruction (passenger aircraft) : Not applicable

**IMDG-Code**

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
EmS Code : Not applicable  
Marine pollutant : Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

Refer to section 15 for specific national regulation.

**Special precautions for user**

Remarks : Not classified as dangerous in the meaning of transport regulations.

**15. REGULATORY INFORMATION****National regulatory information****Regulation under the Occupational Safety and Health Act****Harmful Substances Prohibited from Manufacturing**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Harmful Agents to be kept below Occupational Exposure Limits**

Not applicable

**Harmful Agents Required to be kept below Permission Levels**

Not applicable

**Hazardous substances requiring management**

Not applicable

**Special Management Materials**

Not applicable

**Controlled Substances Subject to Environment Monitoring**

Not applicable

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### Controlled Substances Subject to Health Examination

Not applicable

### Regulation under the Chemicals Control Act

#### Toxic Chemicals

Not applicable

#### Restricted Chemicals

Not applicable

#### Prohibited Chemicals

Not applicable

#### Toxic Release Inventory

Not applicable

#### Accident Precaution Chemicals

Not applicable

#### Dangerous Substances Safety Management Act

Not Applicable to Dangerous Materials

#### Wastes Control Act

Industrial general wastes

Follow article 13 of the act to dispose the product waste

### Other requirements in domestic and other countries

## 16. OTHER INFORMATION

### Further information

SDS Number : 600000001628

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### Revision number and date

Number of Revision : 1.0

Revision Date : 2023/06/30

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### Full text of other abbreviations

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -

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International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

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