

Printing date 10/21/2010 Reviewed on 10/21/2010

#### 1 Identification of substance

· Product details

· Trade name: Buffer FG1; FlexiGene lysis buffer

Manufacturer/Supplier:

QIAGEN GmbH, QIAGEN Str. 1, 40724 Hilden, Germany

Tel.: (+49)-2103/29-0

· Information department:

**QIAGEN Technical Service** 

QIAGEN Inc., 27220 Turnberry Lane, Valencia, CA 91355, USA

Tel.: 1-800-DNA-PREP (1-800-362-7737) Email: techservice-us@giagen.com

· Emergency information:

Poison Information Center Mainz, Germany

Tel.: +49-6131-19240 / 24 h

## 2 Composition/Data on components

- · Chemical characterization
- · **Description:** Mixture of substances listed below with nonhazardous additions.
- · Dangerous components:

t-Octylphenoxypolyethoxyethanol

1.0-2.5%

#### 3 Hazards identification

- · Hazard description: Not applicable.
- · Information pertaining to particular dangers for man and environment: Not applicable.
- · Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· NFPA ratings (scale 0 - 4)

Health = 0 Fire = 0

Reactivity = 0

· WHMIS-ratings (scale 0 - 4)

Health = 0 Fire = 0Reactivity = 0

#### 4 First aid measures

- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Immediately call a doctor.

## 5 Fire fighting measures

· Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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· Protective equipment: Do not inhale explosion gases or combustion gases.

#### 6 Accidental release measures

- · Person-related safety precautions: Not required.
- · Measures for environmental protection:

Do not allow product to reach sewage system or any water course.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

## 7 Handling and storage

- · Handling:
- · Information for safe handling: No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.

## 8 Exposure controls and personal protection

- · Additional information about design of technical systems: No further data: see item 7.
- · Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Personal protective equipment:
- · General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

- · Protection of hands: Protective gloves
- · Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Tightly sealed goggles

## 9 Physical and chemical properties

· General Information

Form: Fluid

**Color:** According to product specification

Odor: Characteristic

· Change in condition

Melting point/Melting range: Undetermined.

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Boiling point/Boiling range: Undetermined.

· Flash point: Not applicable.

• Auto igniting: Product is not selfigniting.

• **Danger of explosion:** Product does not present an explosion hazard.

Vapor pressure at 20℃ (68年): 23 hPa (17 mm Hg)
 Density: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· pH-value at 20℃ (68年): 8.0

### 10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- · Dangerous reactions Reacts with acids, alkalis and oxidizing agents.
- · Dangerous products of decomposition: Danger of toxic pyrolysis products.

## 11 Toxicological information

- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

## 12 Ecological information

· General notes: Generally not hazardous for water

## 13 Disposal considerations

- · Product:
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.



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Trade name: Buffer FG1: FlexiGene lysis buffer

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## 14 Transport information

- · DOT regulations:
- · Hazard class:
- · Land transport ADR/RID (cross-border):
- · ADR/RID class: -
- Maritime transport IMDG:
- · IMDG Class:
- · Marine pollutant: No
- · Air transport ICAO-TI and IATA-DGR:
- · ICAO/IATA Class: -

### 15 Regulations

- · Sara
- · Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

- TSCA (Toxic Substances Control Act): All ingredients are listed.
- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- · Cancerogenity categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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- · National regulations:
- · Water hazard class: Generally not hazardous for water.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.



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#### 1 Identification of substance

· Product details

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· Manufacturer/Supplier:

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· Information department:

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· Emergency information:

Poison Information Center Mainz, Germany

Tel.: +49-6131-19240 / 24 h

## 2 Composition/Data on components

- · Chemical characterization
- · Description: Mixture of substances listed below with nonhazardous additions.
- · Dangerous components:

50-01-1 guanidinium chloride

25-50%

### 3 Hazards identification

· Hazard description:

Harmful

· Information pertaining to particular dangers for man and environment:

Harmful if swallowed.

Irritating to eyes and skin.

· Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 0

Reactivity = 0

· WHMIS-ratings (scale 0 - 4)

Health = 2Fire = 0

Reactivity = 0

#### 4 First aid measures

- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Immediately call a doctor.



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Trade name: Buffer FG2; Flexigene denaturation buffer

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## 5 Fire fighting measures

· Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· Protective equipment: Do not inhale explosion gases or combustion gases.

#### 6 Accidental release measures

- · Person-related safety precautions: Not required.
- · Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.
- · Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

## 7 Handling and storage

- · Handling:
- · Information for safe handling: Keep receptacles tightly sealed.
- · Information about protection against explosions and fires: No special measures required.
- · Storage
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.

#### 8 Exposure controls and personal protection

- · Additional information about design of technical systems: No further data: see item 7.
- · Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- · Protection of hands: Protective gloves
- · Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed goggles



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Trade name: Buffer FG2; Flexigene denaturation buffer

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## 9 Physical and chemical properties

· General Information

Form: Fluid

**Color:** According to product specification

Odor: Characteristic

· Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.

• Flash point: Not applicable.

· **Auto igniting:** Product is not selfigniting.

• **Danger of explosion:** Product does not present an explosion hazard.

Vapor pressure at 20℃ (68年): 23 hPa (17 mm Hg)
 Density: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· pH-value at 20℃ (68°F): 8.5

## 10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- Dangerous reactions Reacts with acids, alkalis and oxidizing agents.
- · Dangerous products of decomposition: Danger of toxic pyrolysis products.

### 11 Toxicological information

- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eve: Irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful Irritant

## 12 Ecological information

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

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Trade name: Buffer FG2; Flexigene denaturation buffer

(Contd. of page 3)

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## 13 Disposal considerations

- · Product:
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- **Recommendation:** Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

## **14 Transport information**

- DOT regulations:
- · Hazard class:
- · Land transport ADR/RID (cross-border):
- ADR/RID class:
- · Maritime transport IMDG:
- · IMDG Class:
- · Marine pollutant: No
- · Air transport ICAO-TI and IATA-DGR:
- · ICAO/IATA Class: -

### 15 Regulations

- · Sara
- · Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

- · TSCA (Toxic Substances Control Act):
- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- · Cancerogenity categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

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Trade name: Buffer FG2; Flexigene denaturation buffer

· TLV (Threshold Limit Value established by ACGIH)

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None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

#### · Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product has been classified and marked in accordance with directives on hazardous materials.

#### · Hazard symbols:

Harmful

### · Hazard-determining components of labelling:

guanidinium chloride

#### · Risk phrases:

Harmful if swallowed.

Irritating to eyes and skin.

#### · Safety phrases:

Keep away from food, drink and animal feedingstuffs.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing.

If swallowed, seek medical advice immediately and show this container or label.

#### · National regulations:

· Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

#### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

## **Important Note**

### Buffer+FG3

Dear Buffer+FG3 user,

Per OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC:1005, 1008(1999)] and the latest amendments to the European Union Directives 67/548/EC and 1999/45/EC, the following products do not require a Material Safety Data Sheet (MSDS). They do not contain more than 1% of a component classified as hazardous and do not contain more than 0,1% of a component classified as carcinogenic. Therefore QIAGEN does not provide a MSDS for any of the following products. However, when working with these or any chemical reagents, we always recommend the use of gloves, lab coats, and eye protection. QIAGEN assumes no liability for damage resulting from handling or contact with these products.

If you have any questions, please contact your local QIAGEN Technical Service Department ( www.giagen.com/contact ).

Best regards,

**QIAGEN** 

Trademarks: QIAGEN® (QIAGEN Group)



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#### 1 Identification of substance

· Product details

· Trade name: QIAGEN Protease

Manufacturer/Supplier:

QIAGEN GmbH, QIAGEN Str. 1, 40724 Hilden, Germany

Tel.: (+49)-2103/29-0

Information department:

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· Emergency information:

Poison Information Center Mainz, Germany

Tel.: +49-6131-19240 / 24 h

## 2 Composition/Data on components

· Chemical characterization:

· CAS No. Description

9014-01-1 Subtilisin

· Identification number(s)

· EINECS Number: 232-752-2

· EU Number: 647-012-00-8

### 3 Hazards identification

· Hazard description:

Harmful

· Information pertaining to particular dangers for man and environment:

Irritating to respiratory system and skin.

Risk of serious damage to eyes.

May cause sensitization by inhalation.

· Classification system:

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 0

Reactivity = 0

WHMIS-ratings (scale 0 - 4)

Health = \*2

Fire = 0

Reactivity = 0

#### 4 First aid measures

- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Immediately call a doctor.



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**Trade name: QIAGEN Protease** 

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## 5 Fire fighting measures

· Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· Protective equipment: Do not inhale explosion gases or combustion gases.

#### 6 Accidental release measures

- · Person-related safety precautions: Not required.
- Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.
- · Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

## 7 Handling and storage

- · Handling:
- · Information for safe handling: Ensure good ventilation/exhaustion at the workplace.
- · Information about protection against explosions and fires: No special measures required.
- · Storage
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.

#### 8 Exposure controls and personal protection

- · Additional information about design of technical systems: No further data: see item 7.
- · Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· CAS No. Designation of material % Type Value Unit

## 9014-01-1 Subtilisin

TLV C 0.00006 mg/m<sup>3</sup>

(m)

- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

- · Protection of hands: Protective gloves
- · Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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**Trade name: QIAGEN Protease** 

· Eye protection: Tightly sealed goggles

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## 9 Physical and chemical properties

· General Information

Form: Solid White Odor: Odorless

· Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.

• Flash point: Not applicable.

· Flammability (solid, gaseous): Product is not flammable.

• **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined.

· Solubility in / Miscibility with

Water: Soluble.

## 10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- · Dangerous reactions Reacts with acids, alkalis and oxidizing agents.
- · Dangerous products of decomposition: No dangerous decomposition products known.

## 11 Toxicological information

- · Acute toxicity:
- · LD/LC50 values that are relevant for classification:

Oral LD50 2000 mg/kg (rat)

#### 9014-01-1 Subtilisin

Oral LD50 2000 mg/kg (rat)

- · Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- · on the eye: Strong irritant with the danger of severe eye injury.
- · Sensitization:

Sensitization possible through inhalation. Sensitization possible through skin contact.

### 12 Ecological information

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

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**Trade name: QIAGEN Protease** 

(Contd. of page 3)

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## 13 Disposal considerations

- · Product:
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

## 14 Transport information

- · DOT regulations:
- · Hazard class:
- · Land transport ADR/RID (cross-border):
- · ADR/RID class:
- · Maritime transport IMDG:
- · IMDG Class:
- · Marine pollutant: No
- · Air transport ICAO-TI and IATA-DGR:
- · ICAO/IATA Class: -

#### 15 Regulations

- · Sara
- Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

9014-01-1 Subtilisin

- · Proposition 65
- · Chemicals known to cause cancer:

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

- · Cancerogenity categories
- · EPA (Environmental Protection Agency)

Substance is not listed.

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

(Contd. on page 5)



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**Trade name: QIAGEN Protease** 

· TLV (Threshold Limit Value established by ACGIH)

(Contd. of page 4)

Substance is not listed.

· MAK (German Maximum Workplace Concentration)

Substance is not listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

#### · Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

#### · Hazard symbols:

Harmful

#### · Risk phrases:

Irritating to respiratory system and skin.

Risk of serious damage to eyes.

May cause sensitization by inhalation.

#### · Safety phrases:

Do not breathe dust.

Avoid contact with skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves and eye/face protection.

If swallowed, seek medical advice immediately and show this container or label.

#### · National regulations:

- · Technical instructions (air):
- · Class Share in %
- · I 50-100
- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.