

**Buffer N3**

Version 2.2

Revision Date 10/22/2015

Print Date 12/01/2015

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Buffer N3

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**Skin corrosion : Category 1A  
Serious eye damage : Category 1**GHS Label element**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.Precautionary Statements : **Prevention:**  
P280 Wear protective gloves/ protective clothing/ eye  
protection/ face protection.

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**Response:**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/ physician.

**Potential Health Effects**

Aggravated Medical Condition : None known.

Symptoms of Overexposure : No information available.

**Carcinogenicity:**

<b>IARC</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
guanidine hydrochloride	50-01-1	>= 30 - < 50
acetic acid	64-19-7	>= 10 - < 20

**SECTION 4. FIRST AID MEASURES**

General advice	: Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
If inhaled	: If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water while

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	removing all contaminated clothes and shoes. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
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.
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 serious eye damage. Causes severe burns.  No information available.
Notes to physician	: No information available.

### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: 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 monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Specific extinguishing methods	: In the event of fire and/or explosion do not breathe fumes. Use a water spray to cool fully closed containers.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
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Evacuate personnel to safe areas.  
 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
 Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

- 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 : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid formation of aerosol.  
 Do not breathe vapors/dust.  
 Avoid contact with skin and eyes.  
 For personal protection see section 8.  
 Smoking, eating and drinking should be prohibited in the application area.  
 Provide sufficient air exchange and/or exhaust in work rooms.  
 Open drum carefully as content may be under pressure.  
 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.
- Materials to avoid : Do not store together with oxidizing and self-igniting products.

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

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
acetic acid	64-19-7	TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
		ST	15 ppm 37 mg/m <sup>3</sup>	NIOSH REL
		TWA	10 ppm 25 mg/m <sup>3</sup>	NIOSH REL
		TWA	10 ppm 25 mg/m <sup>3</sup>	OSHA Z-1
		TWA	10 ppm 25 mg/m <sup>3</sup>	OSHA P0

**Personal protective equipment**

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Respiratory protection	: In the case of vapor formation use a respirator with an approved filter.
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).
Material	: Protective gloves
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.
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 Workers should wear antistatic footwear.
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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Color	: No data available
Odor	: characteristic
Odor Threshold	: No data available
pH	: 4.3
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flash point	: > 160 °C
Evaporation rate	: No data available
Burning rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available

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Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: 1.15 g/cm <sup>3</sup>
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: 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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**SECTION 10. STABILITY AND REACTIVITY**

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

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**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity**

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**Product:**

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

**Ingredients:****guanidine hydrochloride :**

Acute oral toxicity : LD50 Oral Rat: 1,120 mg/kg

**acetic acid :**

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

Acute inhalation toxicity : LC50 Rat: 11.4 mg/l  
Exposure time: 4 h

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

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

Extremely corrosive and destructive to tissue., Causes skin burns.

**Serious eye damage/eye irritation****Product:**Remarks:  
May cause irreversible eye damage.**Respiratory or skin sensitization****Ingredients:****acetic acid:**Remarks:  
May cause sensitization by inhalation and skin contact.**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**STOT-single exposure**

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No data available

**STOT-repeated exposure**

No data available

**Aspiration toxicity**

No data available

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

Remarks:

Solvents may degrease the skin.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

**Ingredients:****acetic acid :**Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,000 mg/l  
Exposure time: 96 h  
Test Method: 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**Persistence and degradability****Ingredients:****guanidine hydrochloride :**Biodegradability : Method: OECD Test Guideline 301C  
Remarks:  
According to the results of tests of biodegradability this product is not readily biodegradable.**Bioaccumulative potential**



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**Product:**

Bioaccumulation : No data available

Partition coefficient: n-  
octanol/water : No data available**Ingredients:****guanidine hydrochloride :**Partition coefficient: n-  
octanol/water : log Pow: ca. -1.7 (20 °C)**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**SECTION 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.

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**SECTION 14. TRANSPORT INFORMATION****IATA-DGR**UN/ID No. : 2790  
Proper shipping name : Acetic acid solution  
Class : 8  
Packing group : III  
Labels : 8**IMDG-Code**UN number : 2790  
Proper shipping name : ACETIC ACID, SOLUTION  
Class : 8  
Packing group : III  
Labels : 8  
EmS Code : ,  
Marine pollutant : no**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

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No data available

**Domestic regulation****49 CFR**

UN/ID/NA number : 2790  
Proper shipping name : Acetic acid solution  
Class : 8  
Packing group : III  
Labels : 8  
ERG Code : 153  
Marine pollutant : no

**Special precautions for user :**

For personal protection see section 8.

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**SECTION 15. REGULATORY INFORMATION**

**TSCA list** : Not relevant  
Not relevant  
**OSHA Hazards** : Toxic by ingestion  
**EPCRA - Emergency Planning and Community Right-to-Know**

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.**US State Regulations****California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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**SECTION 16. OTHER INFORMATION**

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is



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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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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Buffer P1

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

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**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Not a hazardous substance or mixture.

**GHS Label element**

Not a hazardous substance or mixture.

**Potential Health Effects**

Aggravated Medical Condition : None known.

Symptoms of Overexposure : No information available.

**Carcinogenicity:****IARC**

No ingredient of this product present at levels greater than or

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<b>ACGIH</b>	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

No hazardous ingredients

**SECTION 4. FIRST AID MEASURES**

General advice	: Show this material safety data sheet to the doctor in attendance.
If inhaled	: Move to fresh air. If symptoms persist, call 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.
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.
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.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local

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circumstances and the surrounding environment.

Specific hazards during fire fighting : 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 fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

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**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

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

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

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).

Eye protection : Safety glasses

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- 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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : liquid
- Color : No data available
- Odor : characteristic
- Odor Threshold : No data available
- pH : 8
- Melting point/range : No data available
- Boiling point/boiling range : No data available
- Flash point : Not applicable
- Evaporation rate : No data available
- Burning rate : No data available
- Upper explosion limit : No data available
- Lower explosion limit : No data available
- Vapor pressure : No data available
- Relative vapor density : No data available
- Relative density : No data available
- Density : 1.002 g/cm<sup>3</sup>
- Solubility(ies)
- Water solubility : No data available
- Solubility in other solvents : No data available
- Partition coefficient: n-octanol/water : No data available
- Autoignition temperature : not determined
- Thermal decomposition : No data available
- Viscosity
- Viscosity, dynamic : No data available
- Viscosity, kinematic : No data available
- Explosive properties : Not applicable
- Oxidizing properties : No data available

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	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.

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**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

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

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

May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation****Product:**Remarks:  
May irritate eyes.**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available



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### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration toxicity

No data available

### Further information

No data available

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

### Persistence and degradability

No data available

### Bioaccumulative potential

#### Product:

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

### Mobility in soil

No data available

### Other adverse effects

No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

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

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**SECTION 14. TRANSPORT INFORMATION**

**UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

No data available

**Domestic regulation**

**49 CFR**

Not regulated as a dangerous good

**Special precautions for user :**

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

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**SECTION 15. REGULATORY INFORMATION**

**OSHA Hazards** : No OSHA Hazards

**EPCRA - Emergency Planning and Community Right-to-Know**

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : No SARA Hazards

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

**California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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## SECTION 16. OTHER INFORMATION

The information provided in this Material 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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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Buffer P2

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**Corrosive to Metals : Category 1  
Skin corrosion : Category 1A  
Serious eye damage : Category 1**GHS Label element**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.Precautionary Statements : **Prevention:**  
P280 Wear protective gloves/ protective clothing/ eye

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protection/ face protection.

**Response:**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/ physician.

**Potential Health Effects**

Aggravated Medical Condition : None known.  
Symptoms of Overexposure : No information available.

**Carcinogenicity:**

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
sodium dodecyl sulfate	151-21-3	>= 1 - < 5

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with soap and plenty of water while

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removing all contaminated clothes and shoes.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

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.
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 serious eye damage. Causes severe burns.  No information available.
Notes to physician	: No information available.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: 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	: 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 fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Environmental precautions	: Prevent product from entering drains.

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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.

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**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Do not breathe vapors/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 place.

Materials to avoid : Do not store near acids.

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

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

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).

Material

: Protective gloves

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.

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

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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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Color : No data available

Odor : characteristic

Odor Threshold : No data available

pH : 13

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : > 70 °C

Evaporation rate : No data available

Burning rate : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Relative vapor density : No data available

Relative density : No data available

Density : 1.008 g/cm<sup>3</sup>

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Autoignition temperature : not determined

Thermal decomposition : 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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**SECTION 10. STABILITY AND REACTIVITY**

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

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

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

**Ingredients:****sodium dodecyl sulfate :**

Acute oral toxicity	: LD50 Oral Rat: 1,228 mg/kg
Acute inhalation toxicity	: LC50 Rat: 3.9 mg/l Exposure time: 1 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 Dermal Rabbit: 580 mg/kg

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

Extremely corrosive and destructive to tissue., Causes skin burns.

**Ingredients:**

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### **sodium dodecyl sulfate:**

Species: Rabbit

Exposure time: 24 h

Result: Irritating to skin.

### **Serious eye damage/eye irritation**

#### **Product:**

Remarks:

May cause irreversible eye damage.

#### **Ingredients:**

### **sodium dodecyl sulfate:**

Species: Rabbit

Result: Risk of serious damage to eyes.

Method: OECD Test Guideline 405

### **Respiratory or skin sensitization**

No data available

### **Germ cell mutagenicity**

No data available

### **Carcinogenicity**

No data available

### **Reproductive toxicity**

No data available

### **STOT-single exposure**

#### **Ingredients:**

### **sodium dodecyl sulfate:**

Routes of exposure: Inhalation

Assessment: May cause respiratory irritation.

### **STOT-repeated exposure**

No data available

### **Aspiration toxicity**

No data available

### **Further information**

No data available

---

## **SECTION 12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

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**Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

**Ingredients:****sodium dodecyl sulfate :**Toxicity to fish : NOEC (Oncorhynchus mykiss (rainbow trout)): 19.5 mg/l  
Exposure time: 96 hLC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l  
Exposure time: 96 hToxicity to algae : (Pseudokirchneriella subcapitata (green algae)): 2.68 mg/l  
Exposure time: 150 h  
Test Type: Growth inhibition**Persistence and degradability**

No data available

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

Bioaccumulation : No data available

Partition coefficient: n-  
octanol/water : No data available**Mobility in soil**

No data available

**Other adverse effects**

No data available

---

**SECTION 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.

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

---

**SECTION 14. TRANSPORT INFORMATION****IATA-DGR**

UN/ID No. : 1824  
Proper shipping name : Sodium hydroxide solution  
Class : 8  
Packing group : III  
Labels : 8

**IMDG-Code**

UN number : 1824  
Proper shipping name : SODIUM HYDROXIDE SOLUTION  
Class : 8  
Packing group : III  
Labels : 8  
EmS Code : F-A, S-B  
Marine pollutant : no

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

No data available

**Domestic regulation****49 CFR**

UN/ID/NA number : 1824  
Proper shipping name : Sodium hydroxide solution  
Class : 8  
Packing group : III  
Labels : 8  
ERG Code : 154  
Marine pollutant : no

**Special precautions for user :**

For personal protection see section 8.

---

**SECTION 15. REGULATORY INFORMATION**

**OSHA Hazards** : Harmful by ingestion., Toxic by skin absorption  
**EPCRA - Emergency Planning and Community Right-to-Know**

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

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**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

**California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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## SECTION 16. OTHER INFORMATION

The information provided in this Material 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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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**



Product name : Buffer PB

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**Flammable liquids : Category 2  
Skin irritation : Category 2  
Eye irritation : Category 2A  
Specific target organ systemic : Category 3 (Central nervous system)  
toxicity - single exposure**GHS Label element**Hazard pictograms :  

Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.  
H315 Causes skin irritation.

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H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.

Precautionary Statements : **Prevention:**  
 P210 Keep away from heat/sparks/open flames/hot surfaces. -  
 No smoking.  
 P280 Wear protective gloves/ protective clothing/ eye  
 protection/ face protection.

**Potential Health Effects**

Aggravated Medical Condition : None known.  
 Symptoms of Overexposure : No information available.

**Carcinogenicity:**

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
guanidine hydrochloride	50-01-1	>= 30 - < 50
2-Propanol	67-63-0	>= 20 - < 30

---

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
 Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious place in recovery position and seek medical advice.  
 If symptoms persist, call a physician.

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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.
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.
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 drowsiness or dizziness.  No information available.
Notes to physician	: No information available.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: 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	: No hazardous combustion products are known
Specific extinguishing methods	: In the event of fire and/or explosion do not breathe fumes. Use a water spray to cool fully closed containers.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
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Evacuate personnel to safe areas.  
 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
 Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

- 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 : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid formation of aerosol.  
 Do not breathe vapors/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.  
 Provide sufficient air exchange and/or exhaust in work rooms.  
 Open drum carefully as content may be under pressure.  
 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.
- Materials to avoid : Do not store together with oxidizing and self-igniting products.

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

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-Propanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m <sup>3</sup>	NIOSH REL
		ST	500 ppm 1,225 mg/m <sup>3</sup>	NIOSH REL
		TWA	400 ppm 980 mg/m <sup>3</sup>	OSHA Z-1
		TWA	400 ppm 980 mg/m <sup>3</sup>	OSHA P0
		STEL	500 ppm	OSHA P0

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1,225 mg/m<sup>3</sup>**Biological occupational exposure limits**

Component	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
2-Propanol	67-63-0	Acetone	Urine	End of shift at end of workweek	40 mg/l	ACGIH BEI

**Personal protective equipment**

- Respiratory protection : In the case of vapor formation use a respirator with an approved filter.
- 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).
- Material : Protective gloves
- Eye protection : Safety glasses  
Wear face-shield and protective suit for abnormal processing problems.  
Ensure that eyewash stations and safety showers are close to the workstation location.
- 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  
Workers should wear antistatic footwear.
- 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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : liquid
- Color : No data available
- Odor : characteristic
- Odor Threshold : No data available

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pH	: 7, neutral
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flash point	: 22 °C
Evaporation rate	: No data available
Burning rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: 1.05 g/cm <sup>3</sup>
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

---

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Stable under recommended storage conditions.  Hazardous decomposition products formed under fire conditions. Vapors may form explosive mixture with air. Keep away from oxidizing agents, and acidic or alkaline products.

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Conditions to avoid : Heat, flames and sparks.

Incompatible materials : No data available

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

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

**Ingredients:****guanidine hydrochloride :**

Acute oral toxicity : LD50 Oral Rat: 1,120 mg/kg

**2-Propanol :**

Acute oral toxicity : LD50 Oral Rat: 5,045 mg/kg

Acute dermal toxicity : LD50 Dermal Rabbit: 12,800 mg/kg

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

May irritate skin.

**Ingredients:****2-Propanol:**

Species: Rabbit

Result: Mild skin irritation

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

Remarks:

May cause irreversible eye damage.

**Ingredients:****2-Propanol:**

Species: Rabbit

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Exposure time: 24 h  
Result: Eye irritation

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**STOT-single exposure****Ingredients:****2-Propanol:**

Assessment: May cause drowsiness or dizziness.

**STOT-repeated exposure**

No data available

**Aspiration toxicity**

No data available

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

Remarks:

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.,  
Concentrations substantially above the TLV value may cause narcotic effects., Solvents may  
degrease the skin.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

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**Ingredients:****2-Propanol :**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l  
Exposure time: 96 h

Toxicity to algae : EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 2,000 mg/l  
Exposure time: 72 h

**Persistence and degradability****Ingredients:****guanidine hydrochloride :**

Biodegradability : Method: OECD Test Guideline 301C  
Remarks:  
According to the results of tests of biodegradability this product is not readily biodegradable.

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

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

**Ingredients:****guanidine hydrochloride :**

Partition coefficient: n-octanol/water : log Pow: ca. -1.7 (20 °C)

**Mobility in soil**

No data available

**Other adverse effects**

No data available

---

**SECTION 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.

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Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION****IATA-DGR**

UN/ID No. : 1219  
Proper shipping name : Isopropyl alcohol  
Class : 3  
Packing group : II  
Labels : 3

**IMDG-Code**

UN number : 1219  
Proper shipping name : ISOPROPYL ALCOHOL  
Class : 3  
Packing group : II  
Labels : 3  
EmS Code : F-E, S-D  
Marine pollutant : no

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

No data available

**Domestic regulation****49 CFR**

UN/ID/NA number : 1219  
Proper shipping name : Isopropyl alcohol  
Class : 3  
Packing group : II  
Labels : 3  
ERG Code : 129  
Marine pollutant : no

**Special precautions for user :**

For personal protection see section 8.

**SECTION 15. REGULATORY INFORMATION**

**TSCA list** : Not relevant  
Not relevant

**OSHA Hazards** : Flammable Liquid, Toxic by ingestion  
**EPCRA - Emergency Planning and Community Right-to-Know**

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

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- SARA 311/312 Hazards** : Fire Hazard  
Acute Health Hazard
- SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
- US State Regulations**
- California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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**SECTION 16. OTHER INFORMATION**

The information provided in this Material 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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Revision Date 10/19/2015

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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Buffer PE

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

---

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Not a hazardous substance or mixture.

**GHS Label element**

Not a hazardous substance or mixture.

**Potential Health Effects**Aggravated Medical : None known.  
Condition

Symptoms of Overexposure : No information available.

**Carcinogenicity:****IARC**

No ingredient of this product present at levels greater than or

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<b>ACGIH</b>	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

No hazardous ingredients

**SECTION 4. FIRST AID MEASURES**

General advice	: Show this material safety data sheet to the doctor in attendance.
If inhaled	: Move to fresh air. If symptoms persist, call 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.
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.
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.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local

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circumstances and the surrounding environment.

Specific hazards during fire fighting : 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 fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

---

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

---

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

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

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).

Eye protection : Safety glasses

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- 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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : liquid
- Color : No data available
- Odor : characteristic
- Odor Threshold : No data available
- pH : 7.7
- 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 : No data available
- Lower explosion limit : No data available
- Vapor pressure : No data available
- Relative vapor density : No data available
- Relative density : No data available
- Density : 1 g/cm<sup>3</sup>
- Solubility(ies)
- Water solubility : No data available
- Solubility in other solvents : No data available
- Partition coefficient: n-octanol/water : No data available
- Autoignition temperature : not determined
- Thermal decomposition : 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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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	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.

---

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

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

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

May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation****Product:**Remarks:  
May irritate eyes.**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

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### **Carcinogenicity**

No data available

### **Reproductive toxicity**

No data available

### **STOT-single exposure**

No data available

### **STOT-repeated exposure**

No data available

### **Aspiration toxicity**

No data available

### **Further information**

No data available

---

## **SECTION 12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

#### **Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

### **Persistence and degradability**

No data available

### **Bioaccumulative potential**

#### **Product:**

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

### **Mobility in soil**

No data available

### **Other adverse effects**

No data available

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### SECTION 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.

---

### SECTION 14. TRANSPORT INFORMATION

#### UNRTDG

Not regulated as a dangerous good

#### IATA-DGR

Not regulated as a dangerous good

#### IMDG-Code

Not regulated as a dangerous good

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

No data available

#### Domestic regulation

##### 49 CFR

Not regulated as a dangerous good

#### Special precautions for user :

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

---

### SECTION 15. REGULATORY INFORMATION

**OSHA Hazards** : No OSHA Hazards

**EPCRA - Emergency Planning and Community Right-to-Know**

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : No SARA Hazards

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

**California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

---

## SECTION 16. OTHER INFORMATION

The information provided in this Material 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.



**GelPilot 5x Loading Dye**

Version 2.1

Revision Date 10/19/2015

Print Date 12/01/2015

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : GelPilot 5x Loading Dye

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

---

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Not a hazardous substance or mixture.

**GHS Label element**

Not a hazardous substance or mixture.

**Potential Health Effects**Aggravated Medical : None known.  
Condition

Symptoms of Overexposure : No information available.

**Carcinogenicity:****IARC**

No ingredient of this product present at levels greater than or

**GelPilot 5x Loading Dye**

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<b>ACGIH</b>	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
glycerol	56-81-5	>= 20 - < 30

**SECTION 4. FIRST AID MEASURES**

General advice	: Show this material safety data sheet to the doctor in attendance.
If inhaled	: Move to fresh air. If symptoms persist, call 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.
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.
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.

## GelPilot 5x Loading Dye

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### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Specific hazards during fire fighting : 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 fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.
- Materials to avoid : Do not store near acids.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA (mist, total dust)	15 mg/m <sup>3</sup>	OSHA Z-1

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		TWA (Total)	10 mg/m <sup>3</sup>	OSHA P0
		TWA (Respirable fraction)	5 mg/m <sup>3</sup>	OSHA P0
		TWA	10 mg/m <sup>3</sup>	ACGIH

### Personal protective equipment

- 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).
- Eye protection : Safety glasses
- 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.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : No data available
- Odor : characteristic
- Odor Threshold : No data available
- pH : 8.4
- 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 : No data available
- Lower explosion limit : No data available
- Vapor pressure : No data available
- Relative vapor density : No data available
- Relative density : No data available
- Density : 1.08 g/cm<sup>3</sup>
- Solubility(ies)

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Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	not determined
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

---

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	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.

---

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

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

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**Ingredients:**

**glycerol :**

Acute oral toxicity : LD50 Oral Rat: 12,000 mg/kg

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

**Skin corrosion/irritation**

**Product:**

May cause skin irritation in susceptible persons.

**Ingredients:**

**glycerol:**

Species: Rabbit

Exposure time: 24 h

Result: Mild skin irritation

**Serious eye damage/eye irritation**

**Product:**

Remarks:

May irritate eyes.

**Ingredients:**

**glycerol:**

Species: Rabbit

Exposure time: 24 h

Result: Mild eye irritation

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**STOT-single exposure**

No data available

**STOT-repeated exposure**

No data available

**Aspiration toxicity**

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No data available

**Further information**No data available

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

**Ingredients:****glycerol :**Toxicity to fish : LC0 (Leuciscus idus (Golden orfe)): > 250 mg/l  
Exposure time: 48 h**Persistence and degradability**

No data available

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

Bioaccumulation : No data available

Partition coefficient: n-  
octanol/water : No data available**Mobility in soil**

No data available

**Other adverse effects**No data available

---

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**Contaminated packaging : Empty containers should be taken to an approved waste  
handling site for recycling or disposal.

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### SECTION 14. TRANSPORT INFORMATION

**UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

No data available

**Domestic regulation****49 CFR**

Not regulated as a dangerous good

**Special precautions for user :**

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

### SECTION 15. REGULATORY INFORMATION

**OSHA Hazards** : No OSHA Hazards**EPCRA - Emergency Planning and Community Right-to-Know****SARA 304 Extremely Hazardous Substances Reportable Quantity**

Ingredients	CAS-No.	Component RQ (lbs)
sodium azide	26628-22-8	1000

**SARA 311/312 Hazards** : No SARA Hazards**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.**US State Regulations****California Prop 65**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive





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defects.

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### SECTION 16. OTHER INFORMATION

The information provided in this Material 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.

**Lyseblue**

Version 2.1

Revision Date 10/19/2015

Print Date 12/01/2015

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Lyseblue

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

---

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Flammable liquids : Category 4

**GHS Label element**

Signal Word : Warning

Hazard Statements : H227 Combustible liquid.

Precautionary Statements : **Prevention:**  
P210 Keep away from heat/sparks/open flames/hot surfaces. -  
No smoking.**Potential Health Effects**Aggravated Medical : None known.  
Condition

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Symptoms of Overexposure : No information available.

**Carcinogenicity:**

<b>IARC</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
DMSO	67-68-5	>= 70 - < 90

**SECTION 4. FIRST AID MEASURES**

General advice	: Show this material safety data sheet to the doctor in attendance.
If inhaled	: Move to fresh air. If symptoms persist, call 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.
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.
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.

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Notes to physician : No information available.

---

**SECTION 5. FIRE-FIGHTING MEASURES**

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

Specific hazards during fire fighting : 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. Use a water spray to cool fully closed containers.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

---

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Avoid formation of aerosol. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. 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.

**Lyseblue**

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

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
DMSO	67-68-5	TWA	250 ppm	US WEEL

**Personal protective equipment**

- 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).
- Eye protection : Safety glasses
- 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.  
When using do not eat, drink or smoke.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : liquid
- Color : No data available
- Odor : characteristic
- Odor 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 : No data available

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Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

---

**SECTION 10. STABILITY AND REACTIVITY**

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

---

**SECTION 11. TOXICOLOGICAL INFORMATION**

## Lyseblue

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### Acute toxicity

#### Product:

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

#### Ingredients:

##### **DMSO :**

Acute oral toxicity : LD50 Oral Rat: 14,500 mg/kg

Acute inhalation toxicity : LC50 Rat: 40,250 mg/l, 40250 ppm  
Exposure time: 4 h

Acute dermal toxicity : LD50 Dermal Rabbit: > 5,000 mg/kg

### Skin corrosion/irritation

#### Product:

The product may be absorbed through the skin.

### Serious eye damage/eye irritation

#### Product:

Remarks:  
May irritate eyes.

### Respiratory or skin sensitization

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration toxicity

**Lyseblue**

Version 2.1

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No data available

**Further information**

No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

**Ingredients:****DMSO :**Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 34,000 mg/l  
Exposure time: 96 hLC50 (Oncorhynchus mykiss (rainbow trout)): 35,000 mg/l  
Exposure time: 96 hToxicity to daphnia and other : EC50 (Daphnia pulex (Water flea)): 27,000 mg/l  
aquatic invertebrates**Persistence and degradability**

No data available

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

Bioaccumulation : No data available

Partition coefficient: n- : No data available  
octanol/water**Mobility in soil**

No data available

**Other adverse effects**

No data available



**Lyseblue**

Version 2.1

Revision Date 10/19/2015

Print Date 12/01/2015

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**SECTION 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.

---

**SECTION 14. TRANSPORT INFORMATION****UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

No data available

**Domestic regulation****49 CFR**

UN/ID/NA number : 1993  
Proper shipping name : Combustible liquid, n.o.s.  
(dimethyl sulfoxide)  
Class : CBL  
Packing group : III  
ERG Code : 128  
Marine pollutant : no

**Special precautions for user :**For personal protection see section 8.

---

**SECTION 15. REGULATORY INFORMATION****OSHA Hazards** : No OSHA Hazards**EPCRA - Emergency Planning and Community Right-to-Know****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**This material does not contain any components with a section 304 EHS RQ.

---

## Lyseblue

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Print Date 12/01/2015

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**SARA 311/312 Hazards** : Fire Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

**California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

---

## SECTION 16. OTHER INFORMATION

The information provided in this Material 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.

**Lyseblue**

Version 2.1

Revision Date 10/19/2015

Print Date 12/01/2015

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Lyseblue

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Flammable liquids : Category 4

**GHS Label element**

Signal Word : Warning

Hazard Statements : H227 Combustible liquid.

Precautionary Statements : **Prevention:**  
P210 Keep away from heat/sparks/open flames/hot surfaces. -  
No smoking.**Potential Health Effects**Aggravated Medical : None known.  
Condition

**Lyseblue**

Version 2.1

Revision Date 10/19/2015

Print Date 12/01/2015

Symptoms of Overexposure : No information available.

**Carcinogenicity:**

<b>IARC</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
DMSO	67-68-5	>= 70 - < 90

**SECTION 4. FIRST AID MEASURES**

General advice	: Show this material safety data sheet to the doctor in attendance.
If inhaled	: Move to fresh air. If symptoms persist, call 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.
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.
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.

**Lyseblue**

Version 2.1

Revision Date 10/19/2015

Print Date 12/01/2015

Notes to physician : No information available.

---

**SECTION 5. FIRE-FIGHTING MEASURES**

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

Specific hazards during fire fighting : 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. Use a water spray to cool fully closed containers.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

---

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Avoid formation of aerosol. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. 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.

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

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
DMSO	67-68-5	TWA	250 ppm	US WEEL

**Personal protective equipment**

- 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).
- Eye protection : Safety glasses
- 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.  
When using do not eat, drink or smoke.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : liquid
- Color : No data available
- Odor : characteristic
- Odor 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 : No data available

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Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

---

**SECTION 10. STABILITY AND REACTIVITY**

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

---

**SECTION 11. TOXICOLOGICAL INFORMATION**

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### Acute toxicity

#### Product:

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

#### Ingredients:

##### **DMSO :**

Acute oral toxicity : LD50 Oral Rat: 14,500 mg/kg

Acute inhalation toxicity : LC50 Rat: 40,250 mg/l, 40250 ppm  
Exposure time: 4 h

Acute dermal toxicity : LD50 Dermal Rabbit: > 5,000 mg/kg

### Skin corrosion/irritation

#### Product:

The product may be absorbed through the skin.

### Serious eye damage/eye irritation

#### Product:

Remarks:  
May irritate eyes.

### Respiratory or skin sensitization

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration toxicity



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No data available

**Further information**

No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

**Ingredients:****DMSO :**Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 34,000 mg/l  
Exposure time: 96 hLC50 (Oncorhynchus mykiss (rainbow trout)): 35,000 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 27,000 mg/l

**Persistence and degradability**

No data available

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

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**SECTION 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.

---

**SECTION 14. TRANSPORT INFORMATION****UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

No data available

**Domestic regulation****49 CFR**

UN/ID/NA number : 1993  
Proper shipping name : Combustible liquid, n.o.s.  
(dimethyl sulfoxide)  
Class : CBL  
Packing group : III  
ERG Code : 128  
Marine pollutant : no

**Special precautions for user :**For personal protection see section 8.

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**SECTION 15. REGULATORY INFORMATION****OSHA Hazards** : No OSHA Hazards**EPCRA - Emergency Planning and Community Right-to-Know****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**This material does not contain any components with a section 304 EHS RQ.

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**SARA 311/312 Hazards** : Fire Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

**California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

---

## SECTION 16. OTHER INFORMATION

The information provided in this Material 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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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : RNase A

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**Respiratory sensitization : Category 1  
Skin sensitization : Category 1**GHS Label element**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.Precautionary Statements : **Prevention:**

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P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.

**Response:**

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

**Potential Health Effects**

Aggravated Medical Condition : None known.  
Symptoms of Overexposure : No information available.

**Carcinogenicity:**

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
ribonuclease	9001-99-4	>= 1 - < 5

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious place in recovery position and seek medical advice.  
Keep respiratory tract clear.  
If symptoms persist, call a physician.

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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.
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.
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	: May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.  No information available.
Notes to physician	: No information available.

---

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: 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 fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Ensure adequate ventilation. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for	: Soak up with inert absorbent material (e.g. sand, silica gel,

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containment and cleaning up      acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

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**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling      : Do not breathe vapors/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.  
Persons susceptible to skin sensitization problems or asthma,  
allergies, chronic or recurrent respiratory disease should not  
be employed in any process in which this mixture is being  
used.

Conditions for safe storage      : Keep container tightly closed in a dry and well-ventilated  
place.

---

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

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

Respiratory protection      : In the case of vapor formation use a respirator with an  
approved filter.

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).

Material      : Protective gloves

Eye protection      : Tightly fitting safety goggles  
Do not wear contact lenses.

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.

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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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Color	: No data available
Odor	: characteristic
Odor 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	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: 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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**SECTION 10. STABILITY AND REACTIVITY**

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

---

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

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

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

May cause skin irritation and/or dermatitis.

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

Remarks:

The product causes irritation of eyes, skin and mucous membranes.

**Respiratory or skin sensitization****Product:**

Remarks:

Causes sensitization.

May cause sensitization by inhalation and skin contact.

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### Germ cell mutagenicity

No data available

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration toxicity

No data available

### Further information

No data available

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

### Persistence and degradability

No data available

### Bioaccumulative potential

#### Product:

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

### Mobility in soil

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No data available

### Other adverse effects

No data available

---

## SECTION 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.

---

## SECTION 14. TRANSPORT INFORMATION

### UNRTDG

Not regulated as a dangerous good

### IATA-DGR

Not regulated as a dangerous good

### IMDG-Code

Not regulated as a dangerous good

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

No data available

### Domestic regulation

#### 49 CFR

Not regulated as a dangerous good

### Special precautions for user :

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

---

## SECTION 15. REGULATORY INFORMATION

### TSCA list

- : Not relevant  
Not relevant

### OSHA Hazards

- : Skin sensitizer, Respiratory sensitizer

### EPCRA - Emergency Planning and Community Right-to-Know

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### **SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **US State Regulations**

**California Prop 65** : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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## **SECTION 16. OTHER INFORMATION**

The information provided in this Material 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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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : RNase A

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**Respiratory sensitization : Category 1  
Skin sensitization : Category 1**GHS Label element**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.Precautionary Statements : **Prevention:**

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P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.

**Response:**

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

**Potential Health Effects**

Aggravated Medical Condition : None known.  
Symptoms of Overexposure : No information available.

**Carcinogenicity:**

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration [%]
ribonuclease	9001-99-4	>= 1 - < 5

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious place in recovery position and seek medical advice.  
Keep respiratory tract clear.  
If symptoms persist, call a physician.

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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.
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.
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	: May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.  No information available.
Notes to physician	: No information available.

---

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: 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 fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Ensure adequate ventilation. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for	: Soak up with inert absorbent material (e.g. sand, silica gel,

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containment and cleaning up      acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

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**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling      : Do not breathe vapors/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.  
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage      : Keep container tightly closed in a dry and well-ventilated place.

---

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

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

Respiratory protection      : In the case of vapor formation use a respirator with an approved filter.

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).

Material      : Protective gloves

Eye protection      : Tightly fitting safety goggles  
Do not wear contact lenses.

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.



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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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Color	: No data available
Odor	: characteristic
Odor 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	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: 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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**SECTION 10. STABILITY AND REACTIVITY**

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

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

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

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

May cause skin irritation and/or dermatitis.

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

Remarks:

The product causes irritation of eyes, skin and mucous membranes.

**Respiratory or skin sensitization****Product:**

Remarks:

Causes sensitization.

May cause sensitization by inhalation and skin contact.

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### Germ cell mutagenicity

No data available

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration toxicity

No data available

### Further information

No data available

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

### Persistence and degradability

No data available

### Bioaccumulative potential

#### Product:

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

### Mobility in soil

## RNase A

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No data available

### Other adverse effects

No data available

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## SECTION 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.

---

## SECTION 14. TRANSPORT INFORMATION

### UNRTDG

Not regulated as a dangerous good

### IATA-DGR

Not regulated as a dangerous good

### IMDG-Code

Not regulated as a dangerous good

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

No data available

### Domestic regulation

#### 49 CFR

Not regulated as a dangerous good

### Special precautions for user :

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

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## SECTION 15. REGULATORY INFORMATION

### TSCA list

- : Not relevant  
Not relevant

### OSHA Hazards

- : Skin sensitizer, Respiratory sensitizer

### EPCRA - Emergency Planning and Community Right-to-Know

## RNase A

Version 2.2

Revision Date 10/19/2015

Print Date 12/01/2015

### **SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **US State Regulations**

**California Prop 65** : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

---

## **SECTION 16. OTHER INFORMATION**

The information provided in this Material 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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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Buffer EB

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

Telephone : +49-02103-29-0

Responsible 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@qiagen.comE-mail : cpc@qiagen.com  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

---

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Not a hazardous substance or mixture.

**GHS Label element**

Not a hazardous substance or mixture.

**Potential Health Effects**Aggravated Medical : None known.  
Condition

Symptoms of Overexposure : No information available.

**Carcinogenicity:****IARC**

No ingredient of this product present at levels greater than or

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<b>ACGIH</b>	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

No hazardous ingredients

**SECTION 4. FIRST AID MEASURES**

General advice	: Show this material safety data sheet to the doctor in attendance.
If inhaled	: Move to fresh air. If symptoms persist, call 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.
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.
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.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local

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circumstances and the surrounding environment.

Specific hazards during fire fighting : 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 fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

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**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

Materials to avoid : Do not store near acids.

---

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

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

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).



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Eye protection	: Safety glasses
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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Color	: No data available
Odor	: characteristic
Odor Threshold	: No data available
pH	: 8.5
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	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: 1 g/cm <sup>3</sup>
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available

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Oxidizing properties : No data available

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : 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.

---

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

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

May cause skin irritation in susceptible persons.

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

Remarks:  
May irritate eyes.

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

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No data available

### **Carcinogenicity**

No data available

### **Reproductive toxicity**

No data available

### **STOT-single exposure**

No data available

### **STOT-repeated exposure**

No data available

### **Aspiration toxicity**

No data available

### **Further information**

No data available

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## SECTION 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### **Product:**

Toxicity to fish : No data available

Toxicity to algae : No data available

Toxicity to bacteria : No data available

### **Persistence and degradability**

No data available

### **Bioaccumulative potential**

#### **Product:**

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

### **Mobility in soil**

No data available

### **Other adverse effects**

No data available

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**SECTION 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.

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**SECTION 14. TRANSPORT INFORMATION****UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

No data available

**Domestic regulation****49 CFR**

Not regulated as a dangerous good

**Special precautions for user :**

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

---

**SECTION 15. REGULATORY INFORMATION**

**OSHA Hazards** : No OSHA Hazards

**EPCRA - Emergency Planning and Community Right-to-Know**

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

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**SARA 311/312 Hazards** : No SARA Hazards

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