

## Buffer EB

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

### SECTION 1. 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 Inc.  
19300 Germantown Road  
Germantown, MD 20874, USA  
Tel.: 800-426-8157  
<http://support.qiagen.com>

E-mail : [cpc@qiagen.com](mailto:cpc@qiagen.com)  
addressResponsible/issuing  
person

Emergency 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.

#### Other hazards

None known.

---

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Substance name : Buffer EB (55/60),KG

#### Hazardous ingredients

No hazardous ingredients

---

### SECTION 4. FIRST AID MEASURES

**Buffer EB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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 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**

**Buffer EB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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

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

**Buffer EB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

---

**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.

**Buffer EB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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

Not classified based on available information.

**Product:**

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks:

May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks:

May irritate eyes.

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**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.

**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.

**Reproductive toxicity**

Not classified based on available information.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Buffer EB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**Aspiration toxicity**

Not classified based on available information.

**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

**Mobility in soil**

No data available

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

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).

Additional ecological information : No data available

**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.

## Buffer EB

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

### 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

### SECTION 15. REGULATORY INFORMATION

#### 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.

**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.

#### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### SECTION 16. OTHER INFORMATION

#### Full text of other abbreviations

**Buffer EB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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

Revision Date : 08/25/2017

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.



**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**SECTION 1. 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 Inc.  
19300 Germantown Road  
Germantown, MD 20874, USA  
Tel.: 800-426-8157  
<http://support.qiagen.com>E-mail : [cpc@qiagen.com](mailto: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 toxicity - single  
exposure : Category 3 (Central nervous system)**GHS Label element**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

H315 Causes skin irritation.  
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.

**Other hazards**

None known.

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

Substance / Mixture : Mixture  
Substance name : Buffer PB

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration (% w/w)
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.

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.

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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 oxides  
Nitrogen oxides (NO<sub>x</sub>)
- 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.  
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 protection against fire and explosion : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
- 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.

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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 1,225 mg/m <sup>3</sup>	OSHA P0

**Hazardous components without workplace control parameters**

Ingredients	CAS-No.
guanidine hydrochloride	50-01-1

**Biological occupational exposure limits**

Ingredients	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
	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  
Material : Protective gloves

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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  
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
- 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>

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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

**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****Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity	: Acute toxicity estimate: 2,469 mg/kg Method: Calculation method
	No data available
Acute inhalation toxicity	: Acute toxicity estimate: 24.24 mg/l

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

Exposure time: 4 h  
Test atmosphere: vapor  
Method: Calculation method

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**

Causes skin irritation.

**Product:**

Remarks:  
May irritate skin.

**Ingredients:****2-propanol:**

Species: Rabbit  
Result: Mild skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Product:**

Remarks:  
May cause irreversible eye damage.

**Ingredients:****2-propanol:**

Species: Rabbit  
Result: Eye irritation  
Exposure time: 24 h

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.  
Respiratory sensitization: Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**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.

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

<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.

**Reproductive toxicity**

Not classified based on available information.

**STOT-single exposure**

May cause drowsiness or dizziness.

**Ingredients:****2-propanol:**

Assessment: May cause drowsiness or dizziness.

**STOT-repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**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.

**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:****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



**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**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

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

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

**Mobility in soil**

No data available

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

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).

Additional ecological information : 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****IATA-DGR**

UN/ID No. : UN 1219

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

Proper shipping name : Isopropyl alcohol  
Class : 3  
Packing group : II  
Labels : Flammable Liquids

**IMDG-Code**

UN number : UN 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**

Not applicable for product as supplied.

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

UN/ID/NA number : UN 1219  
Proper shipping name : ISOPROPYL ALCOHOL  
Class : 3  
Packing group : II  
Labels : Class 3 - Flammable Liquid  
ERG Code : 129  
Marine pollutant : no

---

**SECTION 15. REGULATORY INFORMATION****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** : 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.

**Buffer PB**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; EC<sub>x</sub> - Concentration associated with x% response; EL<sub>x</sub> - Loading rate associated with x% response; EmS - Emergency Schedule; ErC<sub>x</sub> - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC<sub>50</sub> - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC<sub>50</sub> - Lethal Concentration to 50 % of a test population; LD<sub>50</sub> - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Revision Date : 08/25/2017

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.

## Buffer PE

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

### SECTION 1. 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 Inc.  
19300 Germantown Road  
Germantown, MD 20874, USA  
Tel.: 800-426-8157  
<http://support.qiagen.com>

E-mail : [cpc@qiagen.com](mailto:cpc@qiagen.com)  
addressResponsible/issuing  
person

Emergency 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.

#### Other hazards

None known.

---

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Substance name : Buffer PE

#### Hazardous ingredients

No hazardous ingredients

---

### SECTION 4. FIRST AID MEASURES

**Buffer PE**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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 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**

**Buffer PE**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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

**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

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

**Buffer PE**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

---

**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**

Not classified based on available information.

**Buffer PE**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**Product:**

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks:

May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks:

May irritate eyes.

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**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.

**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.

**Reproductive toxicity**

Not classified based on available information.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Further information**

No data available



**Buffer PE**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**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

**Mobility in soil**

No data available

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

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).

Additional ecological information : No data available

**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

**Buffer PE**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**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

---

**SECTION 15. REGULATORY INFORMATION****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.**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.

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

---

**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA -

# SAFETY DATA SHEET



## Buffer PE

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Revision Date : 08/25/2017

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 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**SECTION 1. 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 Inc.  
19300 Germantown Road  
Germantown, MD 20874, USA  
Tel.: 800-426-8157  
<http://support.qiagen.com>E-mail : [cpc@qiagen.com](mailto: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.

**Other hazards**

None known.

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

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration (% w/w)
glycerol	56-81-5	>= 20 - < 30

**SECTION 4. FIRST AID MEASURES**

**GelPilot 5x Loading Dye**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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 circumstances and the surrounding environment.
Specific hazards during fire fighting	: Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	: Carbon oxides Nitrogen oxides (NOx)
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**

## GelPilot 5x Loading Dye

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.
- 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
		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
		TWA (Mist - total dust)	10 mg/m <sup>3</sup>	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m <sup>3</sup>	OSHA P0

#### 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

# SAFETY DATA SHEET



## GelPilot 5x Loading Dye

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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

---

### SECTION 10. STABILITY AND REACTIVITY

**GelPilot 5x Loading Dye**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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**

Not classified based on available information.

**Product:**

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

**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**

Not classified based on available information.

**Product:**

Remarks:  
May cause skin irritation in susceptible persons.

**Ingredients:****glycerol:**

Species: Rabbit  
Exposure time: 24 h  
Result: Mild skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks:  
May irritate eyes.

**Ingredients:**



**GelPilot 5x Loading Dye**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**glycerol:**

Species: Rabbit

Result: Mild eye irritation

Exposure time: 24 h

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**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.

**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.

**Reproductive toxicity**

Not classified based on available information.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**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:****glycerol:**

Toxicity to fish : LC0 (Leuciscus idus (Golden orfe)): &gt; 250 mg/l

**GelPilot 5x Loading Dye**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

Exposure time: 48 h

**Persistence and degradability**

No data available

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

Bioaccumulation : No data available

**Mobility in soil**

No data available

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

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).

Additional ecological information : 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.

---

**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

## GelPilot 5x Loading Dye

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

### SECTION 15. REGULATORY INFORMATION

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

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

Ingredients	CAS-No.	Component RQ (lbs)
	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 defects.

#### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### SECTION 16. OTHER INFORMATION

#### Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; EC<sub>x</sub> - Concentration associated with x% response; EL<sub>x</sub> - Loading rate associated with x% response; EmS - Emergency Schedule; ErC<sub>x</sub> - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC<sub>50</sub> - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC<sub>50</sub> - Lethal Concentration to 50 % of a test population; LD<sub>50</sub> - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and



## GelPilot 5x Loading Dye

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Revision Date : 08/25/2017

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.

## pH Indicator I

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

### SECTION 1. IDENTIFICATION

Product name : pH Indicator I

#### Manufacturer or supplier's details

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

Telephone : +49-02103-29-0

Responsible Department : QIAGEN Inc.  
19300 Germantown Road  
Germantown, MD 20874, USA  
Tel.: 800-426-8157  
<http://support.qiagen.com>

E-mail : [cpc@qiagen.com](mailto:cpc@qiagen.com)  
addressResponsible/issuing  
person

Emergency 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.

#### Other hazards

None known.

### 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.

**pH Indicator I**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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 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 protection against fire and explosion	: Normal measures for preventive fire protection.
---	---

---

**pH Indicator I**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

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

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 : 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

**pH Indicator I**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

---

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
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

---

**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**

Not classified based on available information.

**Product:**



**pH Indicator I**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks:

May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks:

May irritate eyes.

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**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.

**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.

**Reproductive toxicity**

Not classified based on available information.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Further information**

No data available

**pH Indicator I**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**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

**Mobility in soil**

No data available

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

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).

Additional ecological information : No data available

**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

**pH Indicator I**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

**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

---

**SECTION 15. REGULATORY INFORMATION****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.

**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 defects.**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

---

**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response;

**pH Indicator I**

Version 1.0

Revision Date 08/25/2017

Print Date 12/11/2017

EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Revision Date : 08/25/2017

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.