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 address/Responsible/issuing person : cpc@qiagen.com

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
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.
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
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/cm³

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:**

- 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

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

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
SAFETY DATA SHEET

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.
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 addressResponsible/issuing person : cpc@qiagen.com

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

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.
SAFETY DATA SHEET

Buffer PB

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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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>guanidine hydrochloride</td>
<td>50-01-1</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>2-propanol</td>
<td>67-63-0</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
</tbody>
</table>

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.
SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses. Exposure to decomposition products may be a hazard to health.

Hazardous combustion products: Carbon oxides, Nitrogen oxides (NOx)

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


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.
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

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-propanol</td>
<td>67-63-0</td>
<td>TWA</td>
<td>200 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>400 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>500 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>500 ppm</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>

Hazardous components without workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>guanidine hydrochloride</td>
<td>50-01-1</td>
</tr>
</tbody>
</table>

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0</td>
<td>Acetone</td>
<td>Urine</td>
<td>End of shift at end of workweek</td>
<td>40 mg/l</td>
<td>ACGIH BEI</td>
<td></td>
</tr>
</tbody>
</table>

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.
from one producer to the other. Take note of the information given by the producer concerning permeability and breakthrough 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/cm³
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
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.
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
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
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
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.
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 - 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; TDG - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECS - 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.
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 address : cpc@qiagen.com

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
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 CLEANUP:
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.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No decomposition if stored and applied as directed.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>No decomposition if stored and applied as directed.</td>
</tr>
</tbody>
</table>
| 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.
SAFETY DATA SHEET

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
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
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

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 -
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.
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 address: cpc@qiagen.com

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
</tbody>
</table>

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 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
SAFETY DATA SHEET

GelPilot 5x Loading Dye

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Advice on protection against fire and explosion

Normal measures for preventive fire protection.

Advice on safe handling

For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Materials to avoid

Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>TWA (mist, respirable fraction)</td>
<td>5 mg/m3</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (mist, total dust)</td>
<td>15 mg/m3</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Total)</td>
<td>10 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>5 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist - total dust)</td>
<td>10 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist - respirable fraction)</td>
<td>5 mg/m3</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>

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/cm³

**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:
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:
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)): > 250 mg/l
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

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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.

---

**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
SAFETY DATA SHEET

GelPilot 5x Loading Dye

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SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 304 Extremely Hazardous Substances Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26628-22-8</td>
<td>1000</td>
</tr>
</tbody>
</table>

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 - 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
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SAFETY DATA SHEET

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 address : cpc@qiagen.com

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.
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.
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
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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
Not classified based on available information.

Product:
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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
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
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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;
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.