1. Identification

Product identifier

Product Name
SINGLET™ pH BUFFER SOLUTION  pH 7.00 Buffer Solution

Other means of identification

Product Code(s)
2770120 (U.S. Product Code 2770120)

Recommended use of the chemical and restrictions on use

Recommended Use
Laboratory reagent. Buffer.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389  Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

Emergency Telephone
+1(303) 623-5716 - 24 Hour Service  +1(515)232-2533 - 8am - 4pm CST

2. Hazards identification

Classification
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

Label elements

Hazard statements
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

Other Hazards Known
Not applicable

3. Composition/information on ingredients

Substance
Not applicable.

Mixture
The product contains no substances which at their given concentration, are considered to be hazardous to health
### 4. First aid measures

**Description of first aid measures**

**Inhalation**
 Remove to fresh air.

**Eye contact**
 Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact**
 Wash skin with soap and water.

**Ingestion**
 Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**
 No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**
 Treat symptomatically.

### 5. Fire-fighting measures

**Suitable Extinguishing Media**
 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**
 CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**
 No information available.

**Hazardous combustion products**
 No information available.

**Explosion data**

- **Sensitivity to mechanical impact**
  None.

- **Sensitivity to static discharge**
  None.

**Special protective actions for fire-fighters**
 Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
 Ensure adequate ventilation.

**Environmental precautions**

**Environmental precautions**
 See Section 12 for additional Ecological Information.
7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>aqueous solution</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>yellow</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>
2770120 - SINGLET™ pH BUFFER SOLUTION  pH 7.00
Buffer Solution

Revision Date 08-Oct-2018

pH 7.3
Melting point/freezing point ~ 0 °C / 32 °F
Boiling point / boiling range ~ 100 °C / 212 °F
Evaporation rate 1 (water = 1)
Vapor pressure 18.002 mm Hg / 2.4 kPa at 20 °C / 68 °F
Vapor density (air = 1) 0.62
Specific gravity (water = 1 / air = 1) 1
Partition Coefficient (n-octanol/water) Not applicable
Soil Organic Carbon-Water Partition Coefficient Not applicable
Autoignition temperature No data available
Decomposition temperature No data available
Dynamic viscosity ~ 1 cP (mPa s) at 20 °C / 68 °F
Kinematic viscosity ~ 1 cSt (mm²/s) at 20 °C / 68 °F

Solubility(ies)
Water solubility

<table>
<thead>
<tr>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

Solubility in other solvents

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Solubility classification</th>
<th>Solubility</th>
<th>Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>None reported</td>
<td>No information available</td>
<td>No data available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Other Information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Volatile organic compounds (VOC) content</th>
<th>CAA (Clean Air Act)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate</td>
<td>13446-18-9</td>
<td>No data available</td>
<td>-</td>
</tr>
</tbody>
</table>

Explosive properties
Buffer Solution

10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. Toxicological information

Information on Likely Routes of Exposure

Inhalation

Specific test data for the substance or mixture is not available.

Eye contact

Specific test data for the substance or mixture is not available.

Skin contact

Specific test data for the substance or mixture is not available.

Ingestion

Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

No information available.

Acute toxicity

Aggravated Medical Conditions

None known.

Toxicologically synergistic products

None known.

Toxicokinetics, metabolism and distribution

See ingredients information below.

Product Acute Toxicity Data
Oral Exposure Route
Dermal Exposure Route
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route

No data available
No data available
No data available
No data available
No data available

Numerical measures of toxicity

Unknown acute toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

ATEmix (oral) No information available
ATEmix (dermal) No information available
ATEmix (inhalation-dust/mist) No information available
ATEmix (inhalation-vapor) No information available
ATEmix (inhalation-gas) No information available

Ingredient Acute Toxicity Data

Oral Exposure Route

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Toxicological effects</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate (&lt;0.1%)</td>
<td>Rat LD₅₀</td>
<td>5440 mg/kg</td>
<td>None</td>
<td>All reported</td>
<td>NIH (National Institutes of Health)</td>
</tr>
<tr>
<td>CAS#: 13446-18-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route

If available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route
Dermal Exposure Route
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route

No data available
No data available
No data available
No data available
No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route
Dermal Exposure Route
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route

If available, see data below
If available, see data below
If available, see data below
If available, see data below
If available, see data below

Aspiration toxicity
If available, see data below

Kinematic viscosity
~ 1 cSt (mm²/s)

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
If available, see data below

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Test method</th>
<th>Species</th>
<th>Reported</th>
<th>Exposure</th>
<th>Results</th>
<th>Key literature</th>
</tr>
</thead>
</table>
### Buffer Solution

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Test method</th>
<th>Species</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate (&lt;0.1%)</td>
<td>Standard Draize Test</td>
<td>Rabbit</td>
<td>500 mg</td>
<td>24 hours</td>
<td>Skin irritant</td>
<td>HSDB (Hazardous Substances Data Bank)</td>
</tr>
</tbody>
</table>

#### Product Serious Eye Damage/Eye Irritation Data
No data available.

#### Ingredient Eye Damage/Eye Irritation Data
If available, see data below.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Test method</th>
<th>Species</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate (&lt;0.1%)</td>
<td>Standard Draize Test</td>
<td>Rabbit</td>
<td>500 mg</td>
<td>24 hours</td>
<td>Eye irritant</td>
<td>HSDB (Hazardous Substances Data Bank)</td>
</tr>
</tbody>
</table>

#### Sensitization Information

**Product Sensitization Data**
- Skin Sensitization Exposure Route: No data available.
- Respiratory Sensitization Exposure Route: No data available.

**Ingredient Sensitization Data**
- Skin Sensitization Exposure Route: If available, see data below.
- Respiratory Sensitization Exposure Route: If available, see data below.

### Chronic Toxicity Information

#### Product Specific Target Organ Toxicity Repeat Dose Data
- Oral Exposure Route: No data available.
- Dermal Exposure Route: No data available.
- Inhalation (Dust/Mist) Exposure Route: No data available.
- Inhalation (Vapor) Exposure Route: No data available.
- Inhalation (Gas) Exposure Route: No data available.

#### Ingredient Specific Target Organ Toxicity Repeat Exposure Data
- Oral Exposure Route: If available, see data below.
- Dermal Exposure Route: If available, see data below.
- Inhalation (Dust/Mist) Exposure Route: If available, see data below.
- Inhalation (Vapor) Exposure Route: If available, see data below.
- Inhalation (Gas) Exposure Route: If available, see data below.

#### Product Carcinogenicity Data
- Oral Exposure Route: No data available.
- Dermal Exposure Route: No data available.
- Inhalation (Dust/Mist) Exposure Route: No data available.
- Inhalation (Vapor) Exposure Route: No data available.
- Inhalation (Gas) Exposure Route: No data available.

#### Ingredient Carcinogenicity Data

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate</td>
<td>13446-18-9</td>
<td>-</td>
<td>Group 2A</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

**Legend**
<table>
<thead>
<tr>
<th>English</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH (American Conference of Governmental Industrial Hygienists)</td>
<td>Does not apply</td>
</tr>
<tr>
<td>IARC (International Agency for Research on Cancer)</td>
<td>Does not apply</td>
</tr>
<tr>
<td>NTP (National Toxicology Program)</td>
<td>Does not apply</td>
</tr>
<tr>
<td>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</td>
<td>Does not apply</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oral Exposure Route</th>
<th>If available, see data below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal Exposure Route</td>
<td>If available, see data below</td>
</tr>
<tr>
<td>Inhalation (Dust/Mist) Exposure Route</td>
<td>If available, see data below</td>
</tr>
<tr>
<td>Inhalation (Vapor) Exposure Route</td>
<td>If available, see data below</td>
</tr>
<tr>
<td>Inhalation (Gas) Exposure Route</td>
<td>If available, see data below</td>
</tr>
</tbody>
</table>

**Product Germ Cell Mutagenicity *invitro* Data**
No data available.

**Ingredient Germ Cell Mutagenicity *invitro* Data**
If available, see data below

**Product Germ Cell Mutagenicity *invivo* Data**
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

**Ingredient Germ Cell Mutagenicity *invivo* Data**
Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

**Product Reproductive Toxicity Data**
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

**Ingredient Reproductive Toxicity Data**
Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

### 12. Ecological information

**Ecotoxicity**

**Product Ecological Data**

**Aquatic toxicity**

**Fish** No data available

**Crustacea** No data available
Algae

No data available

Ingredient Ecological Data

Aquatic toxicity

Fish

If available, see ingredient data below

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate (&lt;0.1%) CAS#: 13446-18-9</td>
<td>96 hours</td>
<td><em>Lepomis macrochirus</em></td>
<td>LC&lt;sub&gt;50&lt;/sub&gt;</td>
<td>9000 mg/L</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
</tbody>
</table>

Crustacea

If available, see ingredient data below

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate (&lt;0.1%) CAS#: 13446-18-9</td>
<td>48 Hours</td>
<td><em>Daphnia magna</em></td>
<td>EC&lt;sub&gt;50&lt;/sub&gt;</td>
<td>880 mg/L</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
</tbody>
</table>

Algae

If available, see ingredient data below

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate (&lt;0.1%) CAS#: 13446-18-9</td>
<td>72 Hours</td>
<td><em>Scenedesmus subspicatus</em></td>
<td>EC&lt;sub&gt;50&lt;/sub&gt;</td>
<td>&gt; 100 mg/L</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
</tbody>
</table>

Other Information

Persistence and degradability

Product Biodegradability Data

No data available.

Ingredient Biodegradability Data

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Test method</th>
<th>Biodegradation</th>
<th>Exposure time</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, magnesium salt, hexahydrate (&lt;0.1%) CAS#: 13446-18-9</td>
<td>None reported</td>
<td>None reported</td>
<td>None reported</td>
<td>Not readily biodegradable</td>
</tr>
</tbody>
</table>

Bioaccumulation

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Bioaccumulation Data

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Water solubility

Not applicable
Other adverse effects
No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products
Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging
Do not reuse empty containers.

14. Transportation information

MEX
Not regulated

TDG
Not regulated

U.S. DOT
Not regulated

ICAO (air)
Not regulated

IATA
Not regulated

IMDG
Not regulated

RID
Not regulated

ADR
Not regulated

ADN
Not regulated

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies. If the item is part of a reagent set or kit the classification would change to the following: UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA Complies.

DSL/NDSL Complies.
EINECS/ELINCS: Complies.
ENCS: Complies.
IECSC: Complies.
KECL: Complies.
PICCS: Complies.
AICS: Complies.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

16. Other information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Personal protection X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend: Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
TWA: TWA (time-weighted average)
STEL: STEL (Short Term Exposure Limit)
Ceiling: Maximum limit value
SKN*: Skin designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AÉGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By: Hach Product Compliance Department.

Issue Date: 07-Oct-2018
Revision Date: 08-Oct-2018
Revision Note: None
NOM-018-STPS-2015
The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer
USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY © 2018

End of Safety Data Sheet