# SAFETY DATA SHEET

**Revision date** 27-January-2022 **Revision Number** 2

## 1. Identification

**Product identifier**

**Product Name** BUFFER SOLUTION, PH 1.2, REFERENCE STANDARD

**Other means of identification**

**Product Code(s)** B-490

**UN/ID no** UN1789

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended use** No information available

**Restrictions on use** No information available

**Details of the supplier of the safety data sheet**

**Supplier Address**
Spectrum Chemical Mfg. Corp.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

**Emergency telephone number**

**Emergency Telephone** Chemtrec 1-800-424-9300

## 2. Hazard(s) identification

**Classification**

| | |
|---|---|
| Skin corrosion/irritation | Category 1 Sub-category A |
| Serious eye damage/eye irritation | Category 1 |
| Corrosive to metals | Category 1 |

**Hazards not otherwise classified (HNOC)**
Not applicable

**Label elements**

**Danger**

**Hazard statements**
Causes severe skin burns and eye damage
May cause respiratory irritation
May be corrosive to metals

**Appearance** Clear **Physical state** Liquid **Odor** No information available

**Precautionary Statements - Prevention**
Do not breathe dusts or mists
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container

**Precautionary Statements - Response**
Immediately call a POISON CENTER or doctor
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Absorb spillage to prevent material damage

**Precautionary Statements - Storage**
Store locked up.
Store in a well-ventilated place. Keep container tightly closed
Store in corrosive resistant/ .? container with a resistant inner liner

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other information**
No information available.

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

| Chemical name | CAS No | Weight-% | Trade secret |
|---|---|---|---|
| Water | 7732-18-5 | 80 - 100 | * |
| Potassium Chloride | 7447-40-7 | 0.1 - 1 | * |
| Hydrogen chloride | 7647-01-0 | 0.1 - 1 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First-aid measures

**Description of first aid measures**

**General advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Inhalation** Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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

**Symptoms** Burning sensation.

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

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. Fire-fighting measures

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

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Explosion data**

**Sensitivity to mechanical impact** none.

**Sensitivity to static discharge** none.

**Special protective equipment 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** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. Handling and storage

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

## 8. Exposure controls/personal protection

**Control parameters**

**Exposure Limits** The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Hydrogen chloride<br>7647-01-0 | No data available | 5 ppm Ceiling<br>7 mg/m³ Ceiling | 50 ppm IDLH |

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles. Face protection shield.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

**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** Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Clear |
| **Color** | Colorless |
| **Odor** | No information available |
| **Odor threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 1.2 | None known |
| **Melting point / freezing point** | no data available | None known |
| **Boiling point / boiling range** | no data available | None known |
| **Flash point** | no data available | None known |
| **Evaporation rate** | no data available | None known |
| **Flammability (solid, gas)** | no data available | None known |
| **Flammability Limit in Air** | | None known |
| **Upper flammability or explosive limits** | No data available | |
| **Lower flammability or explosive limits** | No data available | |
| **Vapor pressure** | No data available | None known |
| **Vapor density** | no data available | None known |
| **Relative density** | 1.01 | None known |
| **Water solubility** | Miscible in water | None known |
| **Solubility(ies)** | no data available | None known |
| **Partition coefficient** | No data available | None known |
| **Autoignition temperature** | no data available | None known |
| **Decomposition temperature** | | None known |
| **Kinematic viscosity** | no data available | None known |
| **Dynamic viscosity** | No data available | None known |

**Other information**

| | |
|---|---|
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |

## 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** Exposure to air or moisture over prolonged periods.

**Incompatible materials** Oxidizing agent. Acids. Bases.

**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

**Skin contact** Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

**Ingestion** Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Acute toxicity**

**Numerical measures of toxicity**

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Water<br>7732-18-5 | 90 mL/kg ( Rat ) | - | - |
| Potassium Chloride<br>7447-40-7 | = 2600 mg/kg ( Rat ) | - | - |
| Hydrogen chloride<br>7647-01-0 | 238 - 277 mg/kg ( Rat ) | 5010 mg/kg ( Rabbit ) | 3120 ppm ( Rat ) 1 h |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes burns.
**Serious eye damage/eye irritation** Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.
**Respiratory or skin sensitization** No information available.
**Germ cell mutagenicity** No information available.
**Carcinogenicity** No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| Hydrogen chloride<br>7647-01-0 | - | Group 3 - Not classifiable - Monograph 54 [1992] | - | - |

**Legend**

**Reproductive toxicity** No information available.

**STOT - single exposure** May cause respiratory irritation.
**STOT - repeated exposure** No information available.
**Aspiration hazard** No information available.

**Other adverse effects** No information available.

**Interactive effects** No information available.

## 12. Ecological information

**Ecotoxicity** .

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Potassium Chloride 7447-40-7 | EC50: =2500mg/L (72h, Desmodesmus subspicatus) | LC50: 750 - 1020mg/L (96h, Pimephales promelas) LC50: =1060mg/L (96h, Lepomis macrochirus) | - | EC50: =825mg/L (48h, Daphnia magna) EC50: =83mg/L (48h, Daphnia magna) |
| Hydrogen chloride 7647-01-0 | - | 282 mg/L LC50 Gambusia affinis 96 h 862 mg/L LC50 Leuciscus idus | - | <56 mg/L LC50 Daphnia magna 72h |

**Persistence and degradability** No information available.
**Bioaccumulation** Inherently biodegradable.

**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. Transport information

**DOT**

**UN/ID no** UN1789
**Proper Shipping Name:** Hydrochloric acid
**Hazard class** 8
**Packing group:** III
**Special Provisions** A3, IB3, T4, TP1
**Marine Pollutant** Severe Marine Pollutant
**Description:** UN1789, Hydrochloric acid, 8, III
**Emergency Response Guide Number** 157

**TDG**

**UN-No:** UN1789
**Proper Shipping Name:** Hydrochloric acid
**Hazard class** 8
**Packing Group:** III
**Description:** UN1789, Hydrochloric acid, 8, III

**MEX**

**UN-No** UN1789
**Proper Shipping Name** Hydrochloric acid
**Hazard class** 8
**Special Provisions** 223
**Packing Group** III
**Description** UN1789, Hydrochloric acid, 8, III

**ICAO (air)**

**UN-No:** UN1789

| | |
|---|---|
| **Proper Shipping Name:** | Hydrochloric acid |
| **Hazard class** | 8 |
| **Packing Group:** | III |
| **Special Provisions** | A3 |
| **Description:** | UN1789, Hydrochloric acid, 8, III |

**IATA**

| | |
|---|---|
| **UN number** | UN1789 |
| **Proper Shipping Name:** | Hydrochloric acid |
| **Transport hazard class(es)** | 8 |
| **Packing group** | III |
| **Description:** | UN1789, Hydrochloric acid, 8, III |

**IMDG**

| | |
|---|---|
| **UN number** | UN1789 |
| **Proper shipping name** | Hydrochloric acid |
| **Transport hazard class(es)** | 8 |
| **Packing group** | III |
| **EmS-No** | F-A, S-B |
| **Special Provisions** | 223 |
| **Marine pollutant** | NP1 |
| **Description** | UN1789, Hydrochloric acid, 8, III |

**RID**

| | |
|---|---|
| **UN number** | UN1789 |
| **Proper Shipping Name:** | Hydrochloric acid |
| **Transport hazard class(es)** | 8 |
| **Packing group** | III |
| **Classification code** | C1 |
| **Special Provisions** | 520 |
| **Description:** | UN1789, Hydrochloric acid, 8, III |
| **Labels** | 8 |

**ADR**

| | |
|---|---|
| **UN number** | 1789 |
| **Proper Shipping Name:** | Hydrochloric acid |
| **Transport hazard class(es)** | 8 |
| **Packing group** | III |
| **Classification code** | C1 |
| **Tunnel restriction code** | (E) |
| **Special Provisions** | 520 |
| **Description:** | 1789, Hydrochloric acid, 8, III, (E) |
| **Labels** | 8 |

**ADN**

| | |
|---|---|
| **UN/ID No** | UN1789 |
| **Proper shipping name** | Hydrochloric acid |
| **Transport hazard class(es)** | 8 |
| **Packing Group** | III |
| **Classification code** | C1 |
| **Special Provisions** | 520 |
| **Description** | UN1789, Hydrochloric acid, 8, III |
| **Hazard label(s)** | 8 |
| **Limited quantity (LQ)** | 5 L |
| **Equipment Requirements** | PP, EP |

## 15. Regulatory information

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |

| | |
|---|---|
| **EINECS/ELINCS** | Complies |
| **ENCS** | This product complies with ENCS: |
| **IECSC** | This product complies with China: |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS). |

**Legend:**
**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

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Chemical name | SARA 313 - Threshold Values % |
|---|---|
| Hydrogen chloride - 7647-01-0 | 1.0 |

**SARA 311/312 Hazard Categories**
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|---|---|---|---|
| Hydrogen chloride 7647-01-0 | - | - | - | Present |

**CERCLA**
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs |
|---|---|---|
| Hydrogen chloride 7647-01-0 | 5000 lb final RQ 2270 kg final RQ | - |

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Hydrogen chloride 7647-01-0 | 1012 | Present | Environmental hazard |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. Other information

**NFPA**
**Health hazards** 3
**Flammability** 0
**Instability** 0
**Physical and chemical properties** -
**HMIS**
**Health hazards** 3
**Flammability** 0
**Physical hazards** 0
**Personal protection** X

**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 | | |

**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) (AEGL(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 Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

**Revision date** 27-January-2022
**Revision Note** No information available.

**Disclaimer**

**The information provided in this 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.**

**End of Safety Data Sheet**