# SAFETY DATA SHEET

## BUFFER REFERENCE SOLUTION - PH 4.01 ± 0.01

## Section 1. Identification

**Product identifier** : **BUFFER REFERENCE SOLUTION -** PH 4.01 ± 0.01

**Product code** : PQX0401-500, PQX0401-4500, PQX0401-1, PQX0401.

**Other means of identification** : Not available.

**Product type** : Liquid.

**Relevant identified uses of the substance or mixture and uses advised against**

**Identified uses** : Calibration solution.

**Manufactured/supplied** : CHAPTEC Inc.
470 avenue Laurendeau
Montreal-East, QC
Canada H1B-5M2
Tel: +1-514-498-3620

**Emergency telephone number (with hours of operation)** : CANUTEC: +1-613-996-6666 or *666 (cellular) POISON CONTROL CENTER: (800) 463-5060 24/7

## Section 2. Hazard identification

**Classification of the substance or mixture** : Not classified.

**GHS label elements**

**Hazard pictograms** : Not applicable

**Signal word** : The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Hazard statements** : Not applicable

**Precautionary statements**

**Prevention** : Not applicable

**Response** : Not applicable

**Storage** : Not applicable

**Disposal** : Not applicable

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture.

**Other means of identification** : Not available.

| Ingredient name | % (w/w) | CAS number |
|---|---|---|
| Acetic acid | 0.1 - 1.0 | 64-19-7 |
| Sodium acetate | 0.1 - 1.0 | 127-09-3 |
| FD&C Red #40 | 0.1 - 1.0 | 25956-17-6 |

The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

**Description of necessary first aid measures**

**Eye contact:**
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation:**
Get medical attention if symptoms develop.

**Skin contact:**
Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

**Ingestion:**
Get medical attention if symptoms develop.

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

**Potential acute health effects**

| | |
|---|---|
| **Eye contact** | : No known significant effects or critical hazards. |
| **Inhalation** | : No known significant effects or critical hazards. |
| **Skin contact** | : No known significant effects or critical hazards. |
| **Ingestion** | : No known significant effects or critical hazards. |

**Over-exposure signs/symptoms**

| | |
|---|---|
| **Eye contact** | : No known significant effects or critical hazards. |
| **Inhalation** | : No known significant effects or critical hazards. |
| **Skin contact** | : No known significant effects or critical hazards. |
| **Ingestion** | : No known significant effects or critical hazards. |

**Indication of immediate medical attention and special treatment needed, if necessary**

| | |
|---|---|
| **Notes to physician** | : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| **Specific treatments** | : No specific treatment. |
| **Protection of first-aiders** | : No action shall be taken involving any personal risk or without suitable training. |

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

| | |
|---|---|
| **Suitable extinguishing media** | : Use fire fighting measures that suit the environment. |
| **Unsuitable extinguishing media** | : A solid water stream may be inefficient. |
| **Specific hazards arising from the chemical** | : No specific fire risk of fire or explosion. |
| **Hazardous thermal decomposition products** | : No specific data. |
| **Special protective actions for fire-fighters** | : If there is a fire, promptly isolate the scene by removing all persons from the vicinity of the incident. Take no action involving any personal risk or in absence of adequate personal training. |

## Section 5. Fire-fighting measures

**Special protective equipment for fire-fighters** : It is imperative that Fire-fighters wear appropriate protective equipment and self-contained breathing apparatus (SCBA) equipped with a positive pressure face mask.

## Section 6. Accidental release measures

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

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non- emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g., sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Well, closed. Protected from humidity.

## Section 8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| Acetic acid | **CA Alberta Provincial (Canada, 4/2009).**<br>8 hrs OEL: 10 ppm 8 hours.<br>8 hrs OEL: 25 mg/m³ 8 hours.<br>15 min OEL: 37 mg/m³ 15 minutes.<br>15 min OEL: 15 ppm 15 minutes.<br>**CA British Columbia Provincial (Canada, 6/2017).**<br>TWA: 10 ppm 8 hours.<br>STEL: 15 ppm 15 minutes.<br>**CA Ontario Provincial (Canada, 1/2018).**<br>TWA: 10 ppm 8 hours.<br>STEL: 15 ppm 15 minutes.<br>TWAEV: 10 ppm 8 hours.<br>TWAEV: 25 mg/m³ 8 hours.<br>STEV: 15 ppm 15 minutes.<br>STEV: 37 mg/m³ 15 minutes.<br>**CA Saskatchewan Provincial (Canada, 7/2013).**<br>STEL: 15 ppm 15 minutes.<br>TWA: 10 ppm 8 hours. |

None.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Wear rubber gloves. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

| | |
|---|---|
| **Appearance**<br>**Physical state** | : Liquid. |
| **Color** | : Red |
| **Odor** | : Not available. |
| **Odor threshold** | : Not available. |
| **pH** | : 4.01 |
| **Melting point** | : Not available. |
| **Boiling point** | : Not available. |
| **Flash point** | : Not available. |
| **Evaporation rate** | : Not available. |
| **Flammability (solid, gas)** | : Not available. |
| **Lower and upper explosive (flammable) limits** | : Not available. |
| **Vapor pressure** | : Not available. |
| **Vapor density** | : Not available. |
| **Relative density** | : 1.0 |
| **Solubility** | : Soluble in water. |
| **Partition coefficient: n-octanol/water** | : Not available. |
| **Auto-ignition temperature** | : Not available. |
| **Decomposition temperature** | : Not available. |
| **Viscosity** | : Not available. |
| **Flow time (ISO 2431)** | : Not available. |

## Section 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | : No specific test data related to reactivity available for this product or its ingredients. |
| **Chemical stability** | : The product is stable. |
| **Possibility of hazardous reactions** | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| **Conditions to avoid** | : There is no data available. |
| **Incompatible materials** | : Reactive or incompatible with the following materials: oxidizing materials. |
| **Hazardous decomposition products** | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Acetic Acid | LD50 Oral | Rat | 3310 mg/kg | - |

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Acetic acid | Eyes - Mild irritant<br>Skin - Mild irritant<br>Skin - Severe irritant | Rabbit<br>Rabbit<br>Rabbit | -<br>-<br>- | 0.5 minutes 5 mg<br>24 hours 50 mg<br>525 mg | -<br>-<br>- |

**Sensitization**

There is no data available.

**Mutagenicity**

There is no data available.

**Carcinogenicity**

There is no data available.

**Reproductive toxicity**

There is no data available.

**Teratogenicity**

There is no data available.

**Specific target organ toxicity (single exposure)**

There is no data available.

**Specific target organ toxicity (repeated exposure)**

There is no data available.

**Aspiration hazard**.

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

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

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

## Section 11. Toxicological information

**Potential delayed effects** : No known significant effects or critical hazards.

**Long term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Potential chronic health effects**

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**
There is no data available.

## Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Acetic acid | LC50 32 mg/L Marine water<br>LC50 178 mg/L Marine water | Crustaceans - Artemia salina<br>Fish - Gasterosteus aculeatus | 48 hours<br>96 hours |

**Persistence and degradability**
There is no data available.

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Acetic acid | -0.17 | 3.16 | Low |

**Mobility in soil**

**Soil/water partition coefficient (KOC)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : It is important to minimize or even avoid the generation of waste whenever possible. Disposal of this product, solutions and any by-products must comply with the provisions of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal company. Do not discharge untreated waste into sewers unless, it is in accordance with the requirements of all competent authorities. Waste packaging must be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain product residue. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | TDG Classification | IMDG | IATA |
|---|---|---|---|
| **UN number** | Not regulated | Not regulated | Not regulated |
| **UN proper shipping name** | - | - | - |
| **Transport hazard class(es)** | - | - | - |
| **Packing group** | - | - | - |
| **Environmental hazards** | No. | No. | No. |

**Additional information**

**Emergency Response** : Not applicable.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**Canadian lists**

**Canada inventory (DSL NDSL)** : All components are listed or exempted.

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

## Section 16. Other information

**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| Not classified | |

**History**

**Date of issue** : 01-03-2025

**Date of previous issue** : Not applicable.

**Version** : 1

**Prepared by** : ChapTec

**Key to abbreviations** : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
HPR = Hazardous Products Regulations

**Notice to reader**

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