



SAFETY DATA SHEET

Poison control center (Quebec)
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610, rue Adanac, Quebec (Quebec) G1C 7B7

1. Identification

Product Name Buffer Solution, pH 2.00
Cat No. : TS-0002
Synonyms No information available
Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Supplier

Laboratoire MAT Inc.
610 Adanac street, Quebec
QC, G1C 7B7, Canada
Tel: 418-660-8666
CANADA
www.labmat.com
labmat@labmat.com

Emergency Telephone Number

CANUTEC : 613-996-6666

2. Hazard(s) identification

Classification

WHMIS 2015 Classification Not classified under the Hazardous Products Regulations (SOR/2015-17)

Based on available data, the classification criteria are not met

Label Elements

None required

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|--------------------|-----------|----------|
| Water | 7732-18-5 | 99.43 |
| Potassium chloride | 7447-40-7 | 0.4 |
| Hydrochloric acid | 7647-01-0 | 0.1 |
| Formaldehyde | 50-00-0 | 0.05 |

| | | |
|----------------|---------|------|
| Methyl alcohol | 67-56-1 | 0.02 |
|----------------|---------|------|

4. First-aid measures

| | |
|---|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| Inhalation | Move to fresh air. Get medical attention immediately if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |
| Most important symptoms/effects Notes to Physician | None reasonably foreseeable. Treat symptomatically |

5. Fire-fighting measures

| | |
|---|--------------------------|
| Unsuitable Extinguishing Media | No information available |
| Flash Point | No information available |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. None reasonably foreseeable.

Hazardous Combustion Products
Hydrogen chloride

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

| | | | |
|---------------|---------------------|--------------------|-------------------------|
| Health | Flammability | Instability | Physical hazards |
| 1 | 0 | 0 | N/A |

6. Accidental release measures

| | |
|---|--|
| Personal Precautions | Use personal protective equipment. Ensure adequate ventilation. |
| Environmental Precautions | Should not be released into the environment. |
| Methods for Containment and Clean Up | Sweep up or vacuum up spillage and collect in suitable container for disposal. |

7. Handling and storage

| | |
|-----------------|--|
| Handling | Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. |
| Storage | Keep containers tightly closed in a dry, cool and well-ventilated place. |

8. Exposure controls / personal protection

Exposure Guidelines

| Component | Alberta | British Columbia | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-------------------|--|---------------------------------------|---------------------------------------|--|---------------------------------------|--|--|
| Hydrochloric acid | Ceiling: 2 ppm Ceiling: 3 mg/m ³ | Ceiling: 2 ppm | CEV: 2 ppm | Ceiling: 5 ppm Ceiling: 7.5 mg/m ³ | Ceiling: 2 ppm | Ceiling: 5 ppm Ceiling: 7 mg/m ³ (Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 7 mg/m ³ | IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³ |
| Formaldehyde | Ceiling: 1 ppm Ceiling: 1.3 mg/m ³ TWA: 0.75 ppm TWA: 0.9 mg/m ³ | TWA: 0.3 ppm Ceiling: 1 ppm | STEL: 1 ppm CEV: 1.5 ppm | Ceiling: 2 ppm Ceiling: 3 mg/m ³ | TWA: 0.1 ppm STEL: 0.3 ppm | (Vacated) TWA: 3 ppm (Vacated) STEL: 10 ppm (Vacated) Ceiling: 5 ppm TWA: 0.75 ppm STEL: 2 ppm | IDLH: 20 ppm TWA: 0.016 ppm Ceiling: 0.1 ppm |
| Methyl alcohol | TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ Skin | TWA: 200 ppm STEL: 250 ppm Skin | TWA: 200 ppm STEL: 250 ppm Skin | TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ Skin | TWA: 200 ppm STEL: 250 ppm Skin | (Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m ³ (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m ³ Skin TWA: 200 ppm TWA: 260 mg/m ³ | IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

None under normal use conditions.

Personal protective equipment

Eye Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Hand Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|---|-----------------------------------|-----------------|------------------------|
| Natural rubber Nitrile rubber Neoprene PVC | See manufacturers recommendations | - | Splash protection only |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

No protective equipment is needed under normal use conditions.

Recommended Filter type: Particle filter

Environmental exposure controls

No information available.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

9. Physical and chemical properties

| | |
|--|--------------------------|
| Physical State | Liquid |
| Appearance | Clear |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | 2.00 |
| Melting Point/Range | 0 °C / 32 °F |
| Boiling Point/Range | 100 °C / 212 °F |
| Flash Point | No information available |
| Evaporation Rate | 1.0 |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | 0.7 |
| Specific Gravity | 1.0 |
| Solubility | Soluble in water |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | No information available |

10. Stability and reactivity

| | |
|----------------------------------|--|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Excess heat. |
| Incompatible Materials | None known |
| Hazardous Decomposition Products | Hydrogen chloride |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|-----------|-------------|-----------------|
|-----------|-----------|-------------|-----------------|

| | | | |
|--------------------|---|--|--|
| Water | - | Not listed | Not listed |
| Potassium chloride | LD50 = 2600 mg/kg (Rat) | Not listed | Not listed |
| Hydrochloric acid | 238 - 277 mg/kg (Rat) | > 5010 mg/kg (Rabbit) | 1.68 mg/L (Rat) 1 h |
| Formaldehyde | 500 mg/kg (Rat) | LD50 = 270 mg/kg (Rabbit) | 0.578 mg/L (Rat) 4 h |
| Methyl alcohol | Calc. ATE 60 mg/kg LD50 > 1187 – 2769 mg/kg (Rat) | Calc. ATE 60 mg/kg LD50 = 17100 mg/kg (Rabbit) | Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists) LC50 = 128.2 mg/L (Rat) 4 h |

Toxicologically Synergistic Products No information available

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

Irritation No information available

Sensitization No information available

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

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|--------------------|-----------|------------|------------|------------|------------|------------|
| Water | 7732-18-5 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Potassium chloride | 7447-40-7 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Hydrochloric acid | 7647-01-0 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Formaldehyde | 50-00-0 | Group 1 | Known | A1 | X | A2 |
| Methyl alcohol | 67-56-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

IARC: (International Agency for Research on Cancer)

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Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen

A5 - Not Suspected as a Human Carcinogen

NTP: (National Toxicity Program)

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|--------------------|---------------------|--|---|---|
| Potassium chloride | EC50: 2500 mg/L/72h | Lepomis macrochirus: LC50: 1060 mg/L /96h Pimephales promelas: LC50: 750 - 1020 mg/L /96h | Not listed | EC50: 825 mg/L/48h |
| Hydrochloric acid | - | 282 mg/L LC50 96 h Gambusia affinis mg/L LC50 48 h Leuciscus idus | - | 56mg/L EC50 72h Daphnia |
| Formaldehyde | Not listed | Leuciscus idus: LC50 = 15 mg/L 96h | Not listed | EC50 = 20 mg/L 96h EC50 = 2 mg/L 48h |
| Methyl alcohol | Not listed | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min | EC50 > 10000 mg/L 24h |

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility

| Component | log Pow |
|----------------|---------|
| Formaldehyde | -0.35 |
| Methyl alcohol | -0.74 |

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|--------------------------|------------------------|------------------------|
| Formaldehyde - 50-00-0 | U122 | - |
| Methyl alcohol - 67-56-1 | U154 | - |

14. Transport information

DOT Not regulated
TDG Not regulated
IATA Not regulated
IMDG/IMO Not regulated

15. Regulatory information

International Inventories

| Component | DSL | NDSL | TSCA | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|--------------------|-----|------|------|-----------|--------|-----|-------|------|------|-------|--------------|
| Water | X | - | X | 231-791-2 | - | | X | - | X | X | KE-3540 0 |
| Potassium chloride | X | - | X | 231-211-8 | - | | X | X | X | X | KE-2908 6 |
| Hydrochloric acid | X | - | X | 231-595-7 | - | | X | X | X | X | KE-2018 9 |
| Formaldehyde | X | - | X | 200-001-8 | - | | X | X | X | X | KE-1707 4 |
| Methyl alcohol | X | - | X | 200-659-6 | - | | X | X | X | X | KE-2319 3 |

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

| Component | Canada - National Pollutant Release Inventory (NPRI) | Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances | Canada's Chemicals Management Plan (CEPA) |
|-------------------|--|---|--|
| Hydrochloric acid | Part 1, Group A Substance | | |
| Formaldehyde | Part 1, Group A Substance Part 5, Individual Substances Part 4 Substance | Schedule I | |
| Methyl alcohol | Part 1, Group A Substance Part 5, Individual Substances Part 4 Substance | | |

16. Other information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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