

SAFETY DATA SHEET

Issue Date 14-Apr-2021 **Revision Date** 26-Jan-2024 **Version** 6.3 **Page** 1 / 16

1. IDENTIFICATION

Product identifier

Product Name Buffer Solution pH 4.01 \pm 0.02 (NIST)

Other means of identification

Product Code(s) 2283426

Safety data sheet number M00368

Recommended use of the chemical and restrictions on use
Recommended Use
Analytical reagent. Buffer.

Uses advised against None. Restrictions on use None.

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

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

None

Hazard statements

The product contains no substances which at their given concentration, are considered to be hazardous to health

Other Hazards Known

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

EN / AGHS Page 1/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) Revision Date 26-Jan-2024

Page 2/16

Substance Not applicable

Mixture

Chemical Family Mixture.

Percent ranges are used where confidential product information is applicable.

| Chemical name | CAS No | Percent Range | HMRIC # |
|---------------|---------|------------------|---------|
| Formaldehyde | 50-00-0 | <0.1% | - |
| Methanol | 67-56-1 | <0.1% | - |

4. FIRST AID MEASURES

Description of first aid measures

General advice No hazards which require special first aid measures. Use first aid treatment according to the

nature of the injury.

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 See Section 11 for additional Toxicological Information.

Indication of any immediate medical attention and special treatment needed

5. FIRE-FIGHTING MEASURES

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 This material will not burn.

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

U.S. Notice Only persons properly qualified to respond to an emergency involving hazardous

substances may respond to a spill according to federal regulations (OSHA 29 CFR

1910.120(a)(v)) and per your company's emergency response plan and

EN / AGHS Page 2/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST)

Revision Date 26-Jan-2024

Page 3 / 16

guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

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 Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder,

sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more 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.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH |
|---------------|-------------------------------|---------------------------------------|-----------------------------|
| Formaldehyde | dermal sensitizer;respiratory | TWA: 0.75 ppm | IDLH: 20 ppm |
| CAS#: 50-00-0 | sensitizer | (vacated) TWA: 3 ppm | Ceiling: 0.1 ppm 15 min |
| | STEL: 0.3 ppm | (vacated) STEL: 10 ppm | TWA: 0.016 ppm |
| | TWA: 0.1 ppm | (vacated) Ceiling: 5 ppm | |
| | | STEL: 2 ppm | |
| Methanol | STEL: 250 ppm | TWA: 200 ppm | IDLH: 6000 ppm |
| CAS#: 67-56-1 | TWA: 200 ppm | TWA: 260 mg/m ³ | TWA: 200 ppm |
| | S* | (vacated) TWA: 200 ppm | TWA: 260 mg/m ³ |
| | | (vacated) TWA: 260 mg/m ³ | STEL: 250 ppm |
| | | (vacated) STEL: 250 ppm | STEL: 325 mg/m ³ |
| | | (vacated) STEL: 325 mg/m ³ | |
| | | (vacated) SKN* | |

Appropriate engineering controls

Engineering Controls Showers

Eyewash stations

EN / AGHS Page 3/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST)

Revision Date 26-Jan-2024

Page 4 / 16

Ventilation systems.

Individual protection measures, such as personal protective equipment

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.

Hand Protection Wear suitable gloves.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protectionNo special protective equipment required.

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

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow

into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state

Liquid

Appearance aqueous solution

Color red

Odor None Odor threshold No data available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight No data available

pH 4.01

Melting point / freezing point ~ 0 °C / 32 °F

Initial boiling point and boiling range \sim 100 °C / 212 °F

Evaporation rate 0.99 (water = 1)

Vapor pressure 17.027 mm Hg / 2.27 kPa at 20 °C / 68 °F

Relative vapor density 0.62

Specific gravity - VALUE 1 1.002

Partition coefficient Not applicable

Soil Organic Carbon-Water Partition

Decomposition temperature

Coefficient

Not applicable

No data available

Autoignition temperature No data available

Dynamic viscosity ~ 1 cP (mPa s) at 20 °C / 68 °F

Kinematic viscosity $\sim 0.998 \text{ cSt (mm}^2\text{/s)}$ at 20 °C / 68 °F

Solubility(ies)

Water solubility

EN / AGHS Page 4/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST)

Revision Date 26-Jan-2024

Page 5/16

| Water solubility classification | Water solubility_ | Water Solubility Temperature_ |
|---------------------------------|-------------------|-------------------------------|
| Completely soluble | > 10000 mg/L | 25 °C / 77 °F |

Solubility in other solvents

| Chemical Name | Solubility classification | <u>Solubility</u> | Solubility Temperature_ |
|---------------|---------------------------|-------------------|--------------------------|
| None reported | No information available | No data available | No information available |

Other information

Metal Corrosivity

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

Volatile Organic Compounds (VOC) Content

Not applicable See ingredients information below

| Chemical name | CAS No | Volatile organic compounds (VOC) content | CAA (Clean Air Act) |
|---------------|---------|--|---------------------|
| Formaldehyde | 50-00-0 | No data available | X |
| Methanol | 67-56-1 | 100% | X |

Explosive properties

Upper explosion limitNo data availableLower explosion limitNo data available

Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit:No data availableLower flammability limit:No data available

Oxidizing properties No data available.

Bulk density No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

EN / AGHS Page 5/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) **Revision Date** 26-Jan-2024

Page 6 / 16

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known effect based on information supplied.

Eye contact No known effect based on information supplied.

Skin contact No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

| ſ | Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|--|-------------------------|---------------|---------------|-----------------------|--|
| | Formaldehyde (<0.1%) CAS#: 50-00-0 | Rat LD ₅₀ | | None reported | None reported | GESTIS |

Dermal Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|----------------|---------------|---------------|-----------------------|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | Rabbit LD₅₀ | 270 mg/kg | None reported | None reported | GESTIS |

Inhalation (Dust/Mist) Exposure Route

| Chemical name | Endpoint | Reported | Exposure | Toxicological effects | Key literature references and |
|---------------|------------------|------------|----------|-----------------------|-------------------------------|
| | type | dose | time | | sources for data |
| Formaldehyde | Rat | 0.578 mg/L | 4 hours | None reported | LOLI |
| (<0.1%) | LC ₅₀ | | | | |
| CAS#: 50-00-0 | | | | | |

Inhalation (Vapor) Exposure Route

EN / AGHS Page 6/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) **Revision Date** 26-Jan-2024

Page 7 / 16

Unknown Acute Toxicity

1.01% of the mixture consists of ingredient(s) of unknown toxicity.

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 |

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|--|---------|------------------|------------------|-------------------------------------|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | Standard Draize Test | Human | 0.150 mg | 72 hours | Corrosive to skin | RTECS |
| Methanol (<0.1%) CAS#: 67-56-1 | OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method | | None reported | 20 hours | Not corrosive or irritating to skin | ECHA |

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|--|---------|------------------|------------------|--|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | Rinse Test | Human | 1 ppm | 6 minutes | Corrosive to eyes | RTECS |
| Methanol (<0.1%) CAS#: 67-56-1 | OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method | | 0.05 mL | 24 hours | Not corrosive or irritating to eyes | ECHA |

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Mixture

No data available.

EN / AGHS Page 7/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) **Revision Date** 26-Jan-2024

Page 8 / 16

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

| Chemical name | Test method | Species | Results | Key literature references and sources for data |
|--|---|------------|---------------------------------------|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | Patch test | Human | Confirmed to be a skin sensitizer | ERMA |
| Methanol (<0.1%) CAS#: 67-56-1 | OECD Test No. 406: Skin Sensitization | Guinea pig | Not confirmed to be a skin sensitizer | ECHA |

Respiratory Sensitization Exposure Route

| | Chemical name | Test method | Species | Results | Key literature references and sources for data |
|---|-------------------------|---------------------------------|------------|--|--|
| ĺ | Formaldehyde (<0.1%) | IgE Specific Immune Response | Guinea pig | Confirmed to be a respiratory sensitizer | CICAD |
| | CAS#: 50-00-0 | Test | | | |

STOT - single exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

| Chemical name | Endpoint | Reported | Exposure | Toxicological effects | Key literature references and |
|---------------|----------|-----------|---------------|----------------------------|-------------------------------|
| | type | dose | time | | sources for data |
| Formaldehyde | Human | 70 mg/kg | None reported | Gastrointestinal | RTECS |
| (<0.1%) | LDLo | | | Kidney, Ureter, or Bladder | |
| CAS#: 50-00-0 | | | | Liver | |
| | | | | Other changes | |
| | | | | Ulcerated stomach | |
| | | | | Other changes | |
| Methanol | Human | 143 mg/kg | None reported | Lungs, Thorax, or | RTECS |
| (<0.1%) | LDLo | | · | Respiration | |
| CAS#: 67-56-1 | | | | Dyspnea | |

Inhalation (Vapor) Exposure Route

| | Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|--------------------------------------|---------------|---------------|---------------|---|--|
| • | Methanol (<0.1%) CAS#: 67-56-1 | Human TC∟₀ | 300 mg/L | None reported | Lungs, Thorax, or Respiration Other changes | RTECS |

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

EN / AGHS Page 8/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) Revision Date 26-Jan-2024

Page 9/16

Test data reported below.

Oral Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--------------------------------------|---------------|---------------|---------------|-----------------------|--|
| Methanol (<0.1%) CAS#: 67-56-1 | Monkey | 2340 mg/kg | 3 days | None reported | ECHA |

Inhalation (Vapor) Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|---------------|---------------|---------------|---|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | Human TC∟₀ | 0.017 mg/L | 0.5 days | Eye Lungs, Thorax, or Respiration Lacrimation Other changes | RTECS |

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

Test data reported below.

| Chemical name | CAS No | ACGIH | IARC | NTP | OSHA |
|---------------|---------|-------|---------|-------|------|
| Formaldehyde | 50-00-0 | A1 | Group 1 | Known | X |
| Methanol | 67-56-1 | - | | - | - |

Legend

| ACGIH (American Conference of Governmental Industrial Hygienists) | Does not apply |
|---|----------------|
| IARC (International Agency for Research on Cancer) | Does not apply |
| NTP (National Toxicology Program) | Does not apply |
| OSHA | Does not apply |

Inhalation (Vapor) Exposure Route

| Chemical name | Endpoint | Reported | Exposure | Toxicological effects | Key literature references and |
|--|----------|----------|----------|----------------------------|-------------------------------|
| | type | dose | time | | sources for data |
| Formaldehyde (<0.1%) CAS#: 50-00-0 | Rat | 15 mg/L | 78 weeks | Olfaction Tumors | RTECS |

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

Test data reported below.

| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---------------|----------------|------------------|------------------|------------------|--------------------------|--|
| Methanol | DNA inhibition | Human lymphocyte | 300 mmol/L | None reported | Positive test result for | RTECS |

EN / AGHS Page 9/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) Revision Date 26-Jan-2024 Page 10/16

| (<0.1%) | | | mutagenicity | |
|---------------|--|--|--------------|--|
| CAS#: 67-56-1 | | | | |

Mixture invivo Data

No data available.

Substance invivo Data

Test data reported below.

Oral Exposure Route

| Chemical name | Test | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--------------------------------------|------------|---------|---------------|---------------|---------------------------------------|--|
| Methanol (<0.1%) CAS#: 67-56-1 | DNA damage | Rat | 0.405 mg/kg | None reported | Positive test result for mutagenicity | |

Inhalation (Vapor) Exposure Route

| Chemical name | Test | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|-------------------|---------|------------------|------------------|---------------------------------------|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | Micronucleus test | Human | .000985 mg/L | 8.5 years | Positive test result for mutagenicity | RTECS |

Reproductive toxicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---------------|---------------|---------------|---------------|---------------------------------|--|
| Methanol | Rat | 4118 mg/kg | 10 days | Effects on Embryo or Fetus | RTECS |
| (<0.1%) | TDLo | | | Specific Developmental | |
| CAS#: 67-56-1 | | | | Abnormalities | |
| | | | | Ear | |
| | | | | Eye | |
| | | | | Fetotoxicity (except death e.g. | |
| | | | | stunted fetus) | |
| | | | | Urogenital System | |

Inhalation (Dust/Mist) Exposure Route

| Ī | Chemical name | Endpoint | Reported | Exposure | Toxicological effects | Key literature references and |
|---|---------------|----------|-------------|----------|---------------------------------|-------------------------------|
| L | | type | dose | time | | sources for data |
| Γ | Methanol | Rat | 0.0026 mg/L | 22 days | Effects on Embryo or Fetus | RTECS |
| ١ | (<0.1%) | TCLo | _ | - | Fetotoxicity (except death e.g. | |
| L | CAS#: 67-56-1 | | | | stunted fetus) | |

Inhalation (Vapor) Exposure Route

| Chemical name | Endpoint | Reported | Exposure | Toxicological effects | Key literature references and |
|---------------|----------|----------|----------|-----------------------|-------------------------------|
| | type | dose | time | _ | sources for data |

EN / AGHS Page 10/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) **Revision Date** 26-Jan-2024

Page 11 / 16

| Formaldehyde | Rat | 40 mg/L | 14 days | Effects on Embryo or Fetus | RTECS |
|---------------|------|---------|---------|---------------------------------|-------|
| (<0.1%) | TCLo | | | Fetotoxicity (except death e.g. | |
| CAS#: 50-00-0 | | | | stunted fetus) | |

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Based on available data, the classification criteria are not met.

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic

environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|--|---------------|------------------|---------------|---------------|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | 96 hours | Morone saxatilis | LC50 | 6.7 mg/L | PEEN |

Crustacea

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|--|---------------|---------------|---------------|---------------|--|
| Formaldehyde (<0.1%) CAS#: 50-00-0 | 48 Hours | Daphnia pulex | EC50 | 5.8 mg/L | PEEN |

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Mixture

No data available.

Partition coefficient Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Other adverse effects

EN / AGHS Page 11/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) **Revision Date** 26-Jan-2024

Page 12 / 16

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.

US EPA Waste Number U122 U154

| Chemical name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---------------|------|---------------------------|------------------------|------------------------|
| Formaldehyde | U122 | Included in waste | - | U122 |
| 50-00-0 | | streams: K009, K010, | | |
| | | K038, K040, K156, K157 | | |
| Methanol | - | Included in waste stream: | - | U154 |
| 67-56-1 | | F039 | | |

Special instructions for disposal

Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

<u>IATA</u> Not regulated

IMDG Not regulated

Note: No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA Complies DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies

ENCS Does not comply

IECSCCompliesKECLCompliesPICCSCompliesTCSICompliesAICSCompliesNZIOCComplies

EN / AGHS Page 12/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST)

Revision Date 26-Jan-2024

Page 13 / 16

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

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any 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 % |
|-------------------------------|-------------------------------|
| Formaldehyde (CAS #: 50-00-0) | 0.1 |
| Methanol (CAS #: 67-56-1) | 1.0 |

SARA 311/312 Hazard Categories

| Acute health hazard | Yes |
|-----------------------------------|-----|
| Chronic Health Hazard | No |
| Fire hazard | No |
| Sudden release of pressure hazard | No |
| Reactive Hazard | No |

CWA (Clean Water Act)

This product does not contain any substances regulated as 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 |
|-------------------------|--------------------------------|------------------------|------------------------------|-------------------------------|
| Formaldehyde 50-00-0 | 100 lb | - | - | Х |

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

| Chemical name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---------------|--------------------------|----------------|--------------------------|
| Formaldehyde | 100 lb | 100 lb | RQ 100 lb final RQ |
| 50-00-0 | | | RQ 45.4 kg final RQ |
| Methanol | 5000 lb | - | RQ 5000 lb final RQ |
| 67-56-1 | | | RQ 2270 kg final RQ |

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

| Chemical name | U.S Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues |
|-------------------------|--|
| Formaldehyde (<0.1%) | Release - Toxic (solution) |
| CAS#: 50-00-0 | |

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

| Chemical name | California Proposition 65 |
|-------------------------------|---------------------------|
| Formaldehyde (CAS #: 50-00-0) | Carcinogen |

EN / AGHS Page 13/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) Revision Date 26-Jan-2024

Page 14 / 16

| Methanol (CAS #: 67-56-1) Developmental |
|---|
|---|

WARNING: This product can expose you to chemicals including Formaldehyde, Methanol, which are known to the State of California to cause cancer or birth defects or reproductive harm. For more information, go to http://www.P65Warnings.ca.gov

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|-------------------------|------------|---------------|--------------|
| Formaldehyde 50-00-0 | Х | X | Х |
| Methanol 67-56-1 | Х | X | Х |

U.S. EPA Label Information

| Chemical name | FIFRA | FDA |
|---------------|----------|-----|
| Methanol | 180.0910 | - |

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

| Chemical name | Global Automotive Declarable Substance List Classifications | Global Automotive Declarable Substance List Thersholds |
|---------------|--|---|
| Formaldehyde | Prohibited Substance (FI) | 0.1 % |
| 50-00-0 | Prohibited Substance (LR) | |
| | Declarable Substance (LR) | |
| | Declarable Substance (FI) | |
| Methanol | Declarable Substance (FI) | 0.6 % |
| 67-56-1 | Declarable Substance (LR) | |
| | Prohibited Substance (FI) | |
| | Prohibited Substance (LR) | |

NFPA and HMIS Classifications

| | NFPA | Health hazards - 0 | Flammability - 0 | Instability - 0 | Physical and chemical properties - |
|---|------|--------------------|------------------|----------------------|------------------------------------|
| | HMIS | Health hazards - 0 | Flammability - 0 | Physical hazards - 0 | Personal protection - |
| - | | | - | - | X |
| ١ | | | | | - 1 |

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

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists) **ATSDR** ATSDR (Agency for Toxic Substances and Disease Registry) **CCRIS** CCRIS (Chemical Carcinogenesis Research Information System) CDC CDC (Center for Disease Control)

Page 14/16 EN / AGHS

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST)

Revision Date 26-Jan-2024

Page 15 / 16

CEPA (Canadian Environmental Protection Agency)

CICAD CICAD (Concise International Chemical Assessment Documents)

ECHA ECHA (The European Chemicals Agency)
EEA EEA (European Environment Agency)
EPA EPA (Environmental Protection Agency)

ERMA ERMA (New Zealands Environmental Risk Management Authority)

ECOSARS Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

FDA FDA (Food & Drug Administration)

GESTIS GESTIS (Information System on Hazardous Substances of the German Social Accident

Insurance)

HSDB (Hazardous Substances Data Bank)

INERISINERIS (The National Industrial Environment and Risks Institute)IPCS INCHEMIPCS INCHEM (International Programme on Chemical Safety)IUCLIDIUCLID (The International Uniform Chemical Information Database)NITEJapan National Institute of Technology and Evaluation (NITE)

NIH (National Institutes of Health)

NIOSH NIOSH (National Institute for Occupational Safety and Health)
LOLI (List of Lists - An International Chemical Regulatory Database)

NDF no data

NICNAS Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH IDLH Immediately Dangerous to Life or Health

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

PEEN (Pan European Ecological Network)

RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS (Screening Information Dataset) for High Volume Chemicals

SYKE The Finnish Environment Institute (SYKE)
USDA USDA (United States Department of Agriculture)
USDC USDC (United States Department of Commerce)

WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

MAC Maximum Allowable Concentration Ceiling Ceiling Limit Value

X Listed Vacated These values have no official status. The only

binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state

regulations.

SKN* Skin designation SKN+ Skin sensitization
RSP+ Respiratory sensitization ** Hazard Designation
C Carcinogen R Reproductive toxicant

M mutagen

Prepared By Hach Product Compliance Department

Issue Date 14-Apr-2021

Revision Date 26-Jan-2024

Revision Note None

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.

EN / AGHS Page 15/16

Product Name Buffer Solution pH 4.01 ± 0.02 (NIST) Revision Date 26-Jan-2024 Page 16 / 16

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©2023

End of Safety Data Sheet

EN / AGHS Page 16/16