



Be Right™

SAFETY DATA SHEET

Issue Date 22-11-2019

Revision Date 29-Jun-2021

Version 2.5

1. IDENTIFICATION

Product identifier

Product Name Fluoride Adjustment Buffer Powder

Other means of identification

Product Code(s) 258901

Safety data sheet number M00027

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use Buffer Water Analysis

Uses advised against No information available

Details of the supplier of the safety data sheet

Initial Supplier Identifier

Hach Sales & Service LP. 3020 Gore Road, London, Ontario N5V 4T7 Canada Tel: 1-800-665-7635

Manufacturer Address

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

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300
CANUTEC 613-992-4624

2. HAZARD IDENTIFICATION

Classification

| | |
|-----------------------------------|------------|
| Serious eye damage/eye irritation | Category 1 |
|-----------------------------------|------------|

Label elements

Signal word - Danger

Hazard statements

H318 - Causes serious eye damage

**Precautionary Statements**

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

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 (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Other Hazards Known

May be harmful if swallowed. Causes mild skin irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.

| Chemical name | Synonyms | CAS No | Percent Range | Units | HMIRA # |
|------------------|--------------------------|----------|---------------|-------|---------|
| Butanedioic acid | No information available | 110-15-6 | 1 - 5% | g | - |

4. FIRST AID MEASURES

Description of first aid measures

| | |
|---|--|
| General advice | Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. Get medical attention immediately if symptoms occur. |
| Eye contact | Get immediate medical advice/attention. 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. |
| Skin contact | Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

5. FIREFIGHTING 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 chlorides. Sodium oxides. nitrogen oxides. carbon monoxide, carbon dioxide.

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

WHMIS Notice Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

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

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

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 labelled containers.

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

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. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

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

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
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 Tight sealing safety goggles.

Skin and body protection Wear suitable protective clothing.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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 | | Solid | | |
| Appearance | powder | | Colour | white |
| Odour | Irritating | | Odour threshold | No data available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--------------------------------------|-------------------|-------------------------|
| Molecular weight | No data available | |
| pH | 5.5 | 5% @ 20°C |
| Melting point/freezing point | 185 °C / 365 °F | |
| Boiling point / boiling range | No data available | |
| Evaporation rate | Not applicable | |
| Vapour pressure | Not applicable | |

| | |
|---|-----------------------------|
| Relative vapor density | No data available |
| Specific gravity (water = 1 / air = 1) | 1.95 |
| Partition Coefficient (n-octanol/water) | log K _{ow} ~ -0.46 |
| Soil Organic Carbon-Water Partition Coefficient | log K _{oc} ~ 0.15 |
| Autoignition temperature | No data available |
| Decomposition temperature | No data available |
| Dynamic viscosity | Not applicable |
| Kinematic viscosity | Not applicable |

Solubility(ies)**Water solubility**

| Water solubility classification | Water solubility | Water Solubility Temperature |
|---------------------------------|------------------|------------------------------|
| Soluble | > 1000 mg/L | 25 °C / 77 °F |

Solubility in other solvents

| Chemical Name | Solubility classification | Solubility | Solubility Temperature |
|---------------|---------------------------|------------|------------------------|
| Acid | Slightly soluble | > 0.1 mg/L | 25 °C / 77 °F |

Other information**Metal Corrosivity**

| | |
|-------------------------|-------------------|
| Steel Corrosion Rate | No data available |
| Aluminum Corrosion Rate | No data available |

Volatile Organic Compounds (VOC) Content

Not applicable

| Chemical name | CAS No | Volatile organic compounds (VOC) content | CAA (Clean Air Act) |
|------------------|----------|--|---------------------|
| Butanedioic acid | 110-15-6 | No data available | X |

Explosive properties

| | |
|-----------------------|-------------------|
| Upper explosion limit | No data available |
| Lower explosion limit | No data available |

Flammable properties

| | |
|-------------|----------------|
| Flash point | Not applicable |
|-------------|----------------|

Flammability Limit in Air

| | |
|---------------------------|-------------------|
| Upper flammability limit: | No data available |
| Lower flammability limit | No data available |

Oxidising properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None

Sensitivity to Static Discharge None.

Possibility of hazardous reactions

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

Sodium oxides. chlorides. Carbon dioxide. Carbon monoxide. nitrogen oxides. Phosphorus oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known effect based on information supplied.

Eye contact Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.

Skin contact May cause irritation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms Redness. Burning. May cause blindness.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

No data available.

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|-----------------------|--|
| Butanedioic acid (1 - 5%) CAS#: 110-15-6 | Rat LD ₅₀ | 2260 mg/kg | None reported | None reported | Vendor SDS |

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 (vapour)
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

| | |
|--------------------------------------|--------------------------|
| ATEmix (oral) | 2,466.00 |
| ATEmix (dermal) | No information available |
| ATEmix (inhalation-dust/mist) | No information available |
| ATEmix (inhalation-vapour) | No information available |
| ATEmix (inhalation-gas) | No information available |

Skin corrosion/irritation

May cause skin irritation.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|----------------------|---------|---------------|---------------|-------------------|--|
| Butanedioic acid (1 - 5%) CAS#: 110-15-6 | Standard Draize Test | Rabbit | 0.750 mg | None reported | Corrosive to eyes | ECHA (The European Chemicals Agency) |

Respiratory or skin sensitisation

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

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

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

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

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

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

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

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

| Chemical name | CAS No | ACGIH | IARC | NTP | OSHA |
|------------------|----------|-------|------|-----|------|
| Butanedioic acid | 110-15-6 | - | - | - | - |

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 (Occupational Safety and Health Administration of the US Department of Labour) | Does not apply |

Germ cell mutagenicity

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

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|----------------|------------------|---------------|---------------|---------------------------------------|--|
| Butanedioic acid (1 - 5%) CAS#: 110-15-6 | DNA inhibition | Human fibroblast | None reported | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

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

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicity**Unknown Acute Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data**Acute aquatic toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data**Acute aquatic toxicity**

No data available.

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|--|---------------|---------------|------------------|---------------|---|
| Butanedioic acid (1 - 5%) CAS#: 110-15-6 | 96 hours | None reported | LC ₅₀ | None reported | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™ |
| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
| Butanedioic acid (1 - 5%) CAS#: 110-15-6 | 48 Hours | None reported | EC ₅₀ | 918830 mg/L | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™ |
| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
| Butanedioic acid (1 - 5%) CAS#: 110-15-6 | 96 hours | None reported | EC ₅₀ | 254630 mg/L | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™ |

Aquatic Chronic Toxicity

No data available.

Persistence and degradability**Product Biodegradability Data**

No data available.

Bioaccumulation

MATERIAL DOES NOT BIOACCUMULATE.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)

log K_{ow} ~ -0.46

Mobility**Soil Organic Carbon-Water Partition Coefficient**

log K_{oc} ~ 0.15

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

| | |
|--------------------------------|-----------------------------------|
| <u>Transport Canada</u> | Not regulated |
| <u>TDG</u> | Not regulated |
| <u>IATA</u> | Not regulated |
| <u>IMDG</u> | Not regulated |
| Note: | No special precautions necessary. |

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

Regulatory information

National Inventories

DSL/NDSL Complies

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

| | |
|-----------------------------------|-----------------|
| TSCA | Complies |
| EINECS/ELINCS | Complies |
| ENCS | Complies |
| IECSC | Complies |
| KECL - Existing substances | Complies |
| PICCS | Does not comply |
| TCSI | Complies |
| AICS | Complies |
| NZIoC | Complies |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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

Canada - CEPA - Mercury Containing Products

None

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

16. OTHER INFORMATION

Special Comments

None

NFPA and HMIS Classifications

| | | | | |
|-------------|---------------------------|-------------------------|-----------------------------|---|
| 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

NIOSH IDLH *Immediately Dangerous to Life or Health*
 ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)
 NDF *no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|------|-----------------------------|---------|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| MAC | MAC | 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 sensitisation |
| RSP | Respiratory sensitisation | ** | Hazard Designation |
| C | Carcinogen | R | Reproductive toxicant |
| M | mutagen | | |

Prepared By Hach Product Compliance Department

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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.

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End of Safety Data Sheet