



Be Right™

SAFETY DATA SHEET

Issue Date 14-05-2018

Revision Date 19-Sep-2022

Version 2.2

1. IDENTIFICATION

Product identifier

Product Name Liquid Nitrate Ionic Strength Adjustor Buffer

Other means of identification

Product Code(s) 2488349

Safety data sheet number M01321

UN/ID no UN3082

Recommended use of the chemical and restrictions on use

Recommended Use Ionic strength adjustment solution for ion-specific electrodes 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

Reproductive toxicity	Category 1B
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label elements

Signal word - Danger

Hazard statements

H360 - May damage fertility or the unborn child

H410 - Very toxic to aquatic life with long lasting effects



Precautionary Statements

- P201 - Obtain special instructions before use
- P280 - Wear protective gloves, protective clothing, eye protection, and face protection
- P308 + P313 - IF exposed or concerned: Get medical advice/attention
- P405 - Store locked up
- P501 - Dispose of contents/ container to an approved waste disposal plant
- P273 - Avoid release to the environment
- P391 - Collect spillage

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

Other Hazards Known

Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical name	Synonyms	CAS No	Percent Range	CBI Protection	Units	HMIRA #
Sulfuric acid, aluminum salt (3:2)	No information available	10043-01-3	1 - 5%	-	g	-
Sulfuric acid, disilver(1+) salt	Sulfuric acid, disilver salt	10294-26-5	<1%	-	g	-
Sulfamic acid	Amidosulfonic acid	5329-14-6	<1%	-	g	-
Boric acid (H3BO3)	None	10043-35-3	<1%	-	g	-
Sodium hydroxide	Caustic soda Sodium hydroxide	1310-73-2	<0.01%	-	g	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
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

Note to physicians	Treat symptomatically.
---------------------------	------------------------

5. FIRE-FIGHTING 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	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

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	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	Pick up and transfer to properly labeled 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. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL
Sulfuric acid, aluminum salt (3:2) 1 - 5%	TWA: 2 mg/m ³	NDF	NDF	TWA: 2 mg/m ³	NDF
Sulfuric acid, disilver(1+) salt <1%	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³
Boric acid (H3BO3) <1%	NDF	TWA: 2 mg/m ³ STEL: 6 mg/m ³	TWA: 2 mg/m ³ STEL: 6 mg/m ³	NDF	TWA: 2 mg/m ³ STEL: 6 mg/m ³
Sodium hydroxide <0.01%	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Chemical name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Sulfuric acid, aluminum salt (3:2) 1 - 5%	TWA: 2 mg/m ³ STEL: 4 mg/m ³	NDF	TWA: 2 mg/m ³ STEL: 4 mg/m ³	NDF	NDF
Sulfuric acid, disilver(1+) salt <1%	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³
Boric acid (H3BO3) <1%	TWA: 2 mg/m ³ STEL: 6 mg/m ³	STEL: 6 mg/m ³ TWA: 2 mg/m ³	TWA: 2 mg/m ³ STEL: 6 mg/m ³	TWA: 2 mg/m ³ STEL: 6 mg/m ³	STEL: 6 mg/m ³ TWA: 2 mg/m ³
Sodium hydroxide <0.01%	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Chemical name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Sulfuric acid, aluminum salt (3:2) 1 - 5%	TWA: 2 mg/m ³	TWA: 2 mg/m ³ STEL: 4 mg/m ³	NDF
Sulfuric acid, disilver(1+) salt <1%	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³	STEL: 0.03 mg/m ³ TWA: 0.01 mg/m ³
Boric acid (H3BO3) <1%	TWA: 2 mg/m ³ STEL: 6 mg/m ³	TWA: 2 mg/m ³ STEL: 6 mg/m ³	NDF
Sodium hydroxide <0.01%	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Chemical name	ACGIH TLV	OSHA PEL	NIOSH

Sulfuric acid, aluminum salt (3:2) 1 - 5%	-	(vacated) TWA: 2 mg/m ³	TWA: 2 mg/m ³ Al
Sulfuric acid, disilver(1+) salt <1%	TWA: 0.01 mg/m ³ Ag	TWA: 0.01 mg/m ³ (vacated) TWA: 0.01 mg/m ³	IDLH: 10 mg/m ³ Ag TWA: 0.01 mg/m ³ Ag
Boric acid (H3BO3) <1%	STEL: 6 mg/m ³ inhalable particulate matter TWA: 2 mg/m ³ inhalable particulate matter	NDF	NDF
Sodium hydroxide <0.01%	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³

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

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing.

General Hygiene Considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the 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	Liquid	Color	colorless or clear
Appearance	aqueous solution	Odor threshold	No data available
Odor	Odorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	3.0	@ 20 °C
Melting point / freezing point	2 °C / 35.6 °F	
Initial boiling point and boiling range	98 °C / 208.4 °F	
Evaporation rate	0.73 (water = 1)	
Vapor pressure	23.702 mm Hg / 3.16 kPa at 25 °C / 77 °F	

Relative vapor density	0.62
Specific gravity - VALUE 1	1.018
Partition coefficient	Not applicable
Soil Organic Carbon-Water Partition Coefficient	Not applicable
Autoignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity	No data available
Kinematic viscosity	No data available

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	Moderately soluble	> 100 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

Steel Corrosion Rate	3.99 mm/yr / 0.16 in/yr
Aluminum Corrosion Rate	1.93 mm/yr / 0.08 in/yr

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfuric acid, aluminum salt (3:2)	10043-01-3	No data available	-
Sulfuric acid, disilver(1+) salt	10294-26-5	No data available	-
Sulfamic acid	5329-14-6	Not applicable	-
Boric acid (H3BO3)	10043-35-3	Not applicable	-
Sodium hydroxide	1310-73-2	No data available	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	No data available
-------------	-------------------

Flammability Limit in Air

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

Oxidizing 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 polymerization

None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

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

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, aluminum salt (3:2) (1 - 5%) CAS#: 10043-01-3	Rat LD ₅₀	> 5000 mg/kg	None reported	None reported	ERMA
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Rat LD ₅₀	> 5000 mg/kg	None reported	None reported	Vendor SDS
Sulfamic acid (<1%) CAS#: 5329-14-6	Rat LD ₅₀	1450 mg/kg	None reported	None reported	IUCLID
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Rat LD ₅₀	2660 mg/kg	None reported	None reported	IUCLID

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 (vapor)

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

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.

Product Skin Corrosion/Irritation Data

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
Sulfuric acid, aluminum salt (3:2) (1 - 5%) CAS#: 10043-01-3	OECD Test 404: Acute Dermal Corrosion/Irritation	Rabbit	0.5 mL	4 hours	Not corrosive or irritating to skin	ECHA
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA
Sulfamic acid (<1%) CAS#: 5329-14-6	Standard Draize Test	Human	40 mg	5 days	Mild skin irritant	RTECS
Boric acid (H3BO3) (<1%)	Standard Draize Test	Rabbit	500 mg	24 hours	Not corrosive or irritating to skin	ECHA

CAS#: 10043-35-3						
Sodium hydroxide (<0.01%) CAS#: 1310-73-2	Patch test	Human	20 mg	24 hours	Corrosive to skin	RTECS

Serious eye damage/eye 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
Sulfuric acid, aluminum salt (3:2) (1 - 5%) CAS#: 10043-01-3	OECD Test 405: Acute Eye Corrosion/Irritation	Rabbit	0.1 mL	None reported	Eye irritant	ECHA
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Standard Draize Test	Rabbit	180 mg	None reported	Corrosive to eyes	ECHA
Sulfamic acid (<1%) CAS#: 5329-14-6	Standard Draize Test	Rabbit	20 mg	None reported	Eye irritant	RTECS
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Standard Draize Test	Rabbit	100 mg	24 hours	Not corrosive or irritating to eyes	ECHA
Sodium hydroxide (<0.01%) CAS#: 1310-73-2	Standard Draize Test	Rabbit	0.05 mg	24 hours	Corrosive to eyes	RTECS

Respiratory or skin sensitization

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

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	<i>in vivo</i> Assay	Guinea pig	Not confirmed to be a skin sensitizer	ECHA
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA

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 type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Man LD _{Lo}	429 mg/kg	None reported	Kidney, Ureter, or Bladder Changes in tubules (including acute renal failure, acute tubular necrosis)	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

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Rat LD	> 2000 mg/kg	14 days	No toxicological effects observed	ECHA
Sulfamic acid (<1%) CAS#: 5329-14-6	Rat NOAEL	1000 mg/kg	90 days	No toxicological effects observed	ECHA
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Rat NOAEL	100 mg/kg	730 days	Nutritional and Gross Metabolic Weight gain Food intake	ECHA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Rat NOAEC	470 mg/m ³	70 days	No toxicological effects observed	ECHA

Carcinogenicity

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

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sulfuric acid, aluminum salt (3:2)	10043-01-3	-	-	-	-
Sulfuric acid, disilver(1+) salt	10294-26-5	-	-	-	-
Sulfamic acid	5329-14-6	-	-	-	-

Boric acid (H3BO3)	10043-35-3	-	Group 2A	-	X
Sodium hydroxide	1310-73-2	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

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
Sulfuric acid, aluminum salt (3:2) (1 - 5%) CAS#: 10043-01-3	Micronucleus test	Human lymphocyte	20 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Mutation in mammalian somatic cells	Human lymphocyte	.08 mg/L	3 hours	Negative	ECHA
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Mutation in microorganisms	<i>Salmonella typhimurium</i>	2.5 mg/plate	None reported	Negative	ECHA

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
Sulfamic acid (<1%) CAS#: 5329-14-6	Micronucleus test	Mouse	None reported	None reported	Negative test result for mutagenicity	NITE
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Micronucleus test	Mouse	3500 mg/kg	2 days	Negative test result for mutagenicity	ECHA

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Product Skin Corrosion/Irritation Data

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
Sulfamic acid (<1%) CAS#: 5329-14-6	Rat NOAEL	200 mg/kg	None reported	No reproductive or developmental toxic effects observed	ECHA
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Rat TD _{Lo}	52 mg/kg	26 weeks	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Boric acid (H3BO3) (<1%) CAS#: 10043-35-3	Human TC _{Lo}	0.010 mg/L	10 years	Paternal Effects Epididymis Sperm duct Spermatogenesis (including genetic material, sperm morphology, motility, and count) testes	RTECS

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

Unknown Acute Toxicity

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

Product Ecological Data

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfuric acid, aluminum salt (3:2) (1 - 5%) CAS#: 10043-01-3	96 hours	None reported	LC ₅₀	37 mg/L	GESTIS
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	96 hours	<i>Pimephales promelas</i>	LC ₅₀	0.0012 mg/L	GESTIS
Sulfamic acid	96 hours	<i>Pimephales promelas</i>	LC ₅₀	42.2 mg/L	ERMA

(<1%) CAS#: 5329-14-6					
Sodium hydroxide (<0.01%) CAS#: 1310-73-2	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	45.4 mg/L	IUCLID

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	48 Hours	<i>Ceriodaphnia dubia</i>	LC ₅₀	0.0045 mg/L	GESTIS
Sulfamic acid (<1%) CAS#: 5329-14-6	48 Hours	<i>Daphnia magna</i>	EC ₅₀	71.6 mg/L	ECHA
Sodium hydroxide (<0.01%) CAS#: 1310-73-2	48 Hours	<i>Daphnia sp.</i>	EC ₅₀	40.4 mg/L	IUCLID

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfamic acid (<1%) CAS#: 5329-14-6	72 Hours	<i>Selenastrum capricornutum</i>	EC ₅₀	48 mg/L	ECHA

Aquatic Chronic Toxicity

No data available.

Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL): Environmentally Hazardous Substances Categorizations

Chemical name	Category	Persistent	Bioaccumulation	Inherently Toxic to Aquatic Organisms
Sulfuric acid, aluminum salt (3:2) (1 - 5%) CAS#: 10043-01-3	Inorganics	Yes	No	Yes
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Inorganics	Yes	No	Yes

Persistence and degradability**Product Biodegradability Data**

No data available.

Product Bioaccumulation Data

No data available.

Partition coefficient

Not applicable

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

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.
Contaminated packaging	Do not reuse empty containers.

14. TRANSPORT INFORMATION

<u>Transport Canada</u>	Not regulated
UN/ID no	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s.
DOT Technical Name	(Silver Sulfate)
Transport hazard class(es)	9
Packing Group	III
<u>TDG</u>	
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s.
TDG Technical Name	(Silver Sulfate)
Transport hazard class(es)	9
Packing Group	III
<u>IATA</u>	
UN number or ID number	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s.
IATA Technical Name	(Silver Sulfate)
Transport hazard class(es)	9
Packing group	III
<u>IMDG</u>	
UN number or ID number	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s.
IMDG Technical Name	(Silver Sulfate)
Transport hazard class(es)	9
Packing Group	III
Marine pollutant	This material meets the definition of a marine pollutant

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

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)
CEPA	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 Zealand's 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	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	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	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	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	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 14-05-2018

Revision Date 19-Sep-2022

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. **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©2022**

End of Safety Data Sheet