

pH adjuster

Chemical name	Common name and synonyms	CAS number	%
Sulfuric acid		7664-93-9	100 ppm
Sodium hydroxide		1310-73-2	10 ppm

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). To maintain product quality, do not store in heat or direct sunlight. Storage temperature: between 20 and 25°C. Consult Product Insert for further details.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

pH adjuster	Type	Value
Sulfuric acid (CAS 7664-93-9)	PEL	1 mg/m ³
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

pH adjuster	Type	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³	Thoracic fraction.
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³	

US. NIOSH: Pocket Guide to Chemical Hazards

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Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. If respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Color

Clear.

Odor

Not applicable.

Odor threshold

Not available.

pH

3.5 - 6.5

Melting point/freezing point

32 °F (0 °C) [Water]

Initial boiling point and boiling range

212 °F (100 °C) [Water]

Flash point

Does not flash

Evaporation rate

Not applicable.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits**Explosive limit - lower (%)** Not applicable.**Explosive limit - upper (%)** Not applicable.**Vapor pressure** Not determined.**Vapor density** Not determined.**Relative density** Not determined.**Solubility(ies)****Solubility (water)** Soluble**Partition coefficient (n-octanol/water)** Not applicable, product is a mixture.**Auto-ignition temperature** Not applicable.**Decomposition temperature** Not available.**Viscosity** 1.07 - 1.17 [relative to water]**Other information****Explosive properties** Not explosive.**Oxidizing properties** Not oxidizing.**VOC** Not determined.**10. Stability and reactivity****Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport. Consult Product Insert for further details.**Chemical stability** Material is stable under normal conditions. Consult Product Insert for further details.**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.**Conditions to avoid** Contact with incompatible materials.**Incompatible materials** Strong oxidizing agents.**Hazardous decomposition products** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.**11. Toxicological information****Information on likely routes of exposure****Inhalation** No adverse effects due to inhalation are expected.**Skin contact** No adverse effects due to skin contact are expected.**Eye contact** Direct contact with eyes may cause temporary irritation.**Ingestion** Expected to be a low ingestion hazard.**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.**Information on toxicological effects****Acute toxicity** Not expected to be acutely toxic.

Components	Species	Test Results
Glucose (CAS 50-99-7)		
Acute		
Dermal		
LC66		> 2000 mg/kg
Inhalation		
<i>Dust</i>		
LC50		> 20 mg/l
Oral		
LD50	Rat	25800 mg/kg

pH adjuster	Species	Test Results
Sulfuric acid (CAS 7664-93-9)		
Acute		
Inhalation		
LC50	Mouse	850 mg/m3, 4 hours 600 mg/m3, 8 hours
Oral		
LD50	Rat	2140 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Sulfuric acid (CAS 7664-93-9)	1 Carcinogenic to humans.	
NTP Report on Carcinogens		
Sulfuric acid (CAS 7664-93-9)	Known To Be Human Carcinogen.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.		
pH adjuster	Species	Test Results	
Sulfuric acid (CAS 7664-93-9)			
Aquatic			
Algae	EC50	Algae	100 mg/l, 72 hours
<i>Acute</i>			
Crustacea	EC50	Aquatic Invertebrates	100 mg/l, 48 hours
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
Crustacea	EC50	Ceriodaphnia	40.4 mg/l, 48 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	The product has not been tested.		
Partition coefficient n-octanol / water (log Kow)			
Glucose (CAS 50-99-7)	-3.24		
Mobility in soil	Expected to be highly mobile in soil.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)	Listed.
Sulfuric acid (CAS 7664-93-9)	Listed.

SARA 304 Emergency release notification

Sulfuric acid (CAS 7664-93-9)	1000 LBS
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OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components are either listed on the TSCA 8(b) inventory and designated "active" or exempt from listing.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Sulfuric acid	7664-93-9	1000	1000		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sulfuric acid	7664-93-9	100 ppm

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Sulfuric acid (CAS 7664-93-9)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Sulfuric acid (CAS 7664-93-9)	6552
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Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Sulfuric acid (CAS 7664-93-9)	20 %WV
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DEA Exempt Chemical Mixtures Code Number

Sulfuric acid (CAS 7664-93-9)

6552

US state regulations**US. Massachusetts RTK - Substance List**

Sodium hydroxide (CAS 1310-73-2)

Sulfuric acid (CAS 7664-93-9)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

Sulfuric acid (CAS 7664-93-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)

Sulfuric acid (CAS 7664-93-9)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

Sulfuric acid (CAS 7664-93-9)

California Proposition 65**WARNING:** WARNING: This product contains a chemical known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Sulfuric acid (CAS 7664-93-9)

Listed: March 14, 2003

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

Sulfuric acid (CAS 7664-93-9)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	19-October-2021
Revision date	-
Version #	01
HMIS® ratings	Health: 1 Flammability: 0 Physical hazard: 0

NFPA ratings

Disclaimer

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