Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 12.05.2017

Copper (II) Oxide, ACS Grade

SECTION 1: Identification

Product identifier

Product name: Copper (II) Oxide, ACS Grade
Product code: KEMCO1000-15G

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.
Uses advised against: Not determined or not applicable.
Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:	**Supplier:**
AquaPhoenix Scientific 860 Gitts Run Road Hanover PA 17331 (717) 632-1291	AquaPhoenix Scientific Inc. 860 Gitts Run Road Hanover PA 17331 (717) 632-1291

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

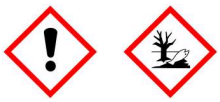
SECTION 2: Hazard(s) identification

GHS classification:

Acute toxicity (oral), category 4
Acute aquatic hazard, category 1
Chronic aquatic hazard, category 1

Label elements

Hazard pictograms:



Signal word: Warning

Hazard statements:

H302 Harmful if swallowed
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Precautionary statements:

P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to the environment
P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
P391 Collect spillage
P405 Store locked up

P501 Dispose of contents and container as instructed in Section 13

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 1317-38-0	Copper (II) oxide	100

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway
Get medical advice/attention if you feel unwell

After skin contact:

Rinse affected area with soap and water
If symptoms develop or persist, seek medical attention

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes
If symptoms develop or persist, seek medical attention

After swallowing:

Rinse mouth thoroughly
Seek medical attention if irritation, discomfort, or vomiting persists
Call a POISON CONTROL CENTER or seek medical attention if you feel unwell
Do not induce vomiting
Rinse mouth and then drink plenty of water

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not applicable.

Delayed symptoms and effects:

Not determined or not applicable.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not applicable.

Notes for the doctor:

Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion
Heating causes a rise in pressure, risk of bursting and combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation
Ensure air handling systems are operational
Wear protective eye wear, gloves and clothing

Environmental precautions:

Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing
Sweep or scoop up solid material while minimizing dust generation
Dispose of contents / container in accordance with local regulations

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation.
Avoid breathing dust.
Do not eat, drink, smoke or use personal products when handling chemical substances.

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.
Keep container dry.
Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
NIOSH	Copper (II) oxide	1317-38-0	NIOSH IDLH: 100 mg/m3 (Cu)
ACGIH	Copper (II) oxide	1317-38-0	ACGIH TLV 8 hr Time-Weighted Avg: 1mg/m3 (Cu)
United States (OSHA)	Copper (II) oxide	1317-38-0	OSHA PEL 8 hr Time-Weighted avg: 1.0 mg/m3 (Cu)
	Copper (II) oxide	1317-38-0	

Biological limit values:

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

Copper (II) Oxide, ACS Grade

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.
Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.
Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygienic measures:

Avoid contact with skin, eyes and clothing.
Wash hands before breaks and at the end of work.
Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Not determined or not available.
Odor	Not determined or not available.
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	Not determined or not available.
Flash point (closed cup)	Not determined or not available.
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	Not determined or not available.
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.

Copper (II) Oxide, ACS Grade

Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

SECTION 10: Stability and reactivity

Reactivity:
Does not react under normal conditions of use and storage.

Chemical stability:
Stable under normal conditions of use and storage.

Possibility of hazardous reactions:
None under normal conditions of use and storage.

Conditions to avoid:
None known.

Incompatible materials:
None known.

Hazardous decomposition products:
None known.

SECTION 11: Toxicological information

Acute toxicity
Assessment: Harmful if swallowed
Product data: No data available.
Substance data: No data available.

Skin corrosion/irritation
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Serious eye damage/irritation
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Respiratory or skin sensitization
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Carcinogenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.
International Agency for Research on Cancer (IARC): None of the ingredients are listed.
National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.

Copper (II) Oxide, ACS Grade

Substance data: No data available.

Reproductive toxicity

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

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

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

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

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

Product data: No data available.

Substance data: No data available.

Aspiration toxicity

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

Product data: No data available.

Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Very toxic to aquatic life

Product data: No data available.

Substance data:

Name	Result
Copper (II) oxide	EC50 - Daphina magna (Water flea) - 11 - 39µg/L - 48 h
	LC50 - Morone saxatilles (Striped bass) - 120 - 3080µg/L - 48 h

Chronic (long-term) toxicity

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

1317-38-0	Copper (II) oxide	Listed

Significant New Use Rule (TSCA Section 5): Not determined.

Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

SARA Section 302 extremely hazardous substances: Not determined.

SARA Section 313 toxic chemicals:

Copper (II) Oxide, ACS Grade

1317-38-0	Copper (II) oxide	Not Listed

CERCLA: Not determined.

RCRA: Not determined.

Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know:

1317-38-0	Copper (II) oxide	Listed

New Jersey Right to Know:

1317-38-0	Copper (II) oxide	Listed

New York Right to Know:

1317-38-0	Copper (II) oxide	Listed

Pennsylvania Right to Know:

1317-38-0	Copper (II) oxide	Listed

California Proposition 65: None of the ingredients are listed.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 2-0-0

HMIS: 2-0-0-X

Initial preparation date: 12.05.2017

End of Safety Data Sheet

Copper (II) Hydroxide

SECTION 1: Identification

Product identifier

Product name: Copper (II) Hydroxide
Product code: KEMCU1080-15G

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.
Uses advised against: Not determined or not applicable.
Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:	**Supplier:**
AquaPhoenix Scientific 860 Gitts Run Road Hanover PA 17331 (717) 632-1291	AquaPhoenix Scientific Inc. 860 Gitts Run Road Hanover PA 17331 (717) 632-1291

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard(s) identification

GHS classification:

Acute toxicity (oral), category 4
Acute toxicity (inhalation), category 2
Serious eye damage, category 1
Chronic aquatic hazard, category 1
Acute aquatic hazard, category 1

Label elements

Hazard pictograms:

Signal word: Danger

Hazard statements:

H302 Harmful if swallowed
H330 Fatal if inhaled
H318 Causes serious eye damage
H410 Very toxic to aquatic life with long lasting effects
H400 Very toxic to aquatic life

Precautionary statements:

P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P260 Do not breathe dust/fume/gas/mist/vapors/spray

P271 Use only outdoors or in a well-ventilated area
P284 Wear respiratory protection
P280 Wear protective gloves/protective clothing/eye protection/face protection
P273 Avoid release to the environment
P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
P320 Specific treatment is urgent (see ... on this label)
P304+P340+P310 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician
P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P391 Collect spillage
P405 Store locked up
P403+P233 Store in a well ventilated place. Keep container tightly closed
P501 Dispose of contents and container as instructed in Section 13

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 20427-59-2	Cupric Hydroxide	100

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:
Not determined or not applicable.

After inhalation:
Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway
Move exposed individual to fresh air
Immediately call a POISON CONTROL CENTER or seek medical attention

After skin contact:
Rinse affected area with soap and water
If symptoms develop or persist, seek medical attention

After eye contact:
Rinse/flush exposed eye(s) gently using water for 15-20 minutes
If symptoms develop or persist, seek medical attention
Remove contact lens(es) if able to do so during rinsing
Immediately call a POISON CONTROL CENTER or seek medical attention

After swallowing:
Rinse mouth thoroughly
Seek medical attention if irritation, discomfort, or vomiting persists
Call a POISON CONTROL CENTER or seek medical attention if you feel unwell
Do not induce vomiting
Rinse mouth and then drink plenty of water

Most important symptoms and effects, both acute and delayed

Copper (II) Hydroxide

Acute symptoms and effects:
Not determined or not applicable.

Delayed symptoms and effects:
Not determined or not applicable.

Immediate medical attention and special treatment

Specific treatment:
Not determined or not applicable.

Notes for the doctor:
Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:
Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:
Not determined or not applicable.

Specific hazards during fire-fighting:
Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:
Wear protective eye wear, gloves and clothing
Refer to Section 8

Special precautions:
Avoid inhaling gases, fumes, dust, mist, vapor and aerosols
Avoid contact with skin, eyes and clothing

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ensure adequate ventilation
Ensure air handling systems are operational
Wear protective eye wear, gloves and clothing

Environmental precautions:
Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:
Wear protective eye wear, gloves and clothing

Reference to other sections:
Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:
Do not eat, drink, smoke or use personal products when handling chemical substances.
Avoid breathing mist or vapor.

Conditions for safe storage, including any incompatibilities:
Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Copper (II) Hydroxide

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
United States (OSHA)	Cupric Hydroxide	20427-59-2	OSHA PEL 1 mg/m3, as Cu (dusts and mists)
	Cupric Hydroxide	20427-59-2	OSHA PEL 0.1 mg/m3, as Cu (fume)
ACGIH	Cupric Hydroxide	20427-59-2	ACGIH TLV 1 mg/m3, as Cu, (dusts and mists)
	Cupric Hydroxide	20427-59-2	ACGIH TLV 0.1 mg/m3, as Cu,(fume)
NIOSH	Cupric Hydroxide	20427-59-2	NIOSH IDLH 100 mg/m3, as Cu (fume)

Biological limit values:

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

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

General hygienic measures:

Wash hands before breaks and at the end of work.
Avoid contact with skin, eyes and clothing.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Pale blue powder.
Odor	Odorless.
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	80°C
Initial boiling point/range	Not determined or not available.
Flash point (closed cup)	Not determined or not available.
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.

Copper (II) Hydroxide

Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	3.71 g/cm³ at 20°C (68°F)
Solubilities	Slightly soluble in water.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

SECTION 10: Stability and reactivity

Reactivity:
Does not react under normal conditions of use and storage.

Chemical stability:
Stable under normal conditions of use and storage.

Possibility of hazardous reactions:
None under normal conditions of use and storage.

Conditions to avoid:
Incompatible materials. Excess heat. Dust generation.

Incompatible materials:
Strong acids

Hazardous decomposition products:
Copper oxides.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Harmful if swallowed Fatal if inhaled

Product data: No data available.

Substance data:

Name	Route	Result
Cupric Hydroxide	dermal	LD50 Rat: 1000 mg/kg
	inhalation	LC50 Rabbit: >1303 mg/m3

Skin corrosion/irritation

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

Product data: No data available.

Substance data: No data available.

Serious eye damage/irritation

Assessment: Causes serious eye damage

Product data: No data available.

Substance data: No data available.

Respiratory or skin sensitization

Copper (II) Hydroxide

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Carcinogenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.
International Agency for Research on Cancer (IARC): None of the ingredients are listed.
National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Reproductive toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Specific target organ toxicity (single exposure)
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Specific target organ toxicity (repeated exposure)
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Aspiration toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Information on likely routes of exposure: No data available.
Symptoms related to the physical, chemical and toxicological characteristics: No data available.
Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity
Assessment: Very toxic to aquatic life
Product data: No data available.
Substance data:

Name	Result
Cupric Hydroxide	Oncorhynchus mykiss LC50: 64 ug/L

Chronic (long-term) toxicity
Product data: No data available.
Substance data: No data available.

Persistence and degradability
Product data: No data available.
Substance data: No data available.

Bioaccumulative potential

Copper (II) Hydroxide

Product data: No data available.
Substance data: No data available.

Mobility in soil

Product data: No data available.
Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	3288
UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S. (Copper dihydroxide)
UN transport hazard class(es)	6.1 
Packing group	II
Environmental hazards	None
Special precautions for user	None
Excepted quantities	1 g/1 ml
Passenger air/rail	25KG
Cargo aircraft only	100KG
Stowage category	A

International Maritime Dangerous Goods (IMDG)

UN number	3288
UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S. (Copper dihydroxide)
UN transport hazard class(es)	6.1 
Packing group	II
Environmental hazards	None
Special precautions for user	None
Excepted quantities	1g/1mL
Limited quantity	500g

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	3288
UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S. (Copper dihydroxide)
UN transport hazard class(es)	6.1 
Packing group	II

Copper (II) Hydroxide

Environmental hazards	None
Special precautions for user	None
ERG code	151
Excepted quantities	1g/1mL
Passenger and cargo	25KG
Cargo aircraft only	100KG
Limited quantity	500g

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

20427-59-2	Cupric Hydroxide	Listed

Significant New Use Rule (TSCA Section 5): Not determined.

Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

SARA Section 302 extremely hazardous substances: Not determined.

SARA Section 313 toxic chemicals:

20427-59-2	Cupric Hydroxide	Listed

CERCLA: Not determined.

RCRA: Not determined.

Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know: Not determined.

New Jersey Right to Know: Not determined.

New York Right to Know: Not determined.

Pennsylvania Right to Know: Not determined.

California Proposition 65: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 3-0-0

HMIS: 3-0-0

Initial preparation date: 02.09.2018

End of Safety Data Sheet

Methanol (Methyl Alcohol)

SECTION 1: Identification

Product identifier

Product name: Methanol (Methyl Alcohol)
Product code: KEMME1000-C

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.
Uses advised against: Not determined or not applicable.
Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:	**Supplier:**
AquaPhoenix Scientific 860 Gitts Run Road Hanover PA 17331 (717) 632-1291	AquaPhoenix Scientific Inc. 860 Gitts Run Road Hanover PA 17331 (717) 632-1291

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard identification

GHS classification:

Flammable liquids, category 2
Acute toxicity (oral), category 3
Acute toxicity (dermal), category 3
Acute toxicity (inhalation), category 3
Specific target organ toxicity - single exposure, category 1

Label elements

Hazard pictograms:

Signal word: Danger

Hazard statements:

H225 Highly flammable liquid and vapor
H301 Toxic if swallowed
H311 Toxic in contact with skin
H331 Toxic if inhaled
H370 Causes damage to organs

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
P233 Keep container tightly closed
P240 Ground/bond container and receiving equipment
P241 Use explosion-proof electrical/ventilating/light/equipment
P242 Use only non-sparking tools
P243 Take precautionary measures against static discharge
P280 Wear protective gloves/protective clothing/eye protection/face protection
P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P271 Use only outdoors or in a well-ventilated area
P260 Do not breathe dust/fume/gas/mist/vapors/spray
P303+P361+P353 If on skin (or hair): Immediately remove/take off all contaminated clothing. Rinse skin with water/shower
P370+P378 In case of fire: Use agents recommended in section 5 for extinction
P321 Specific treatment (see supplemental first aid instructions on this label).
P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
P363 Wash contaminated clothing before reuse
P302+P352+P312 If on skin: Wash with soap and water. Call a poison center or doctor/physician if you feel unwell
P304+P340+P311 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician
P307+P311 If exposed: Call a poison center or doctor/physician
P405 Store locked up
P403+P233 Store in a well ventilated place. Keep container tightly closed
P501 Dispose of contents and container as instructed in Section 13

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 67-56-1	Methanol	100

Additional Information: None

SECTION 4: First-aid measures

Description of first-aid measures

General notes:
Not determined or not available.

After inhalation:
Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway
Move exposed individual to fresh air
Call a POISON CONTROL CENTER or seek medical attention

After skin contact:
Rinse affected area with soap and water
If symptoms develop or persist, seek medical attention

Immediately remove all contaminated clothing
Wash affected area with soap and water
Seek medical attention if symptoms develop or persist
Call a POISON CONTROL CENTER or seek medical attention if you feel unwell

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes
If symptoms develop or persist, seek medical attention

After ingestion:

Rinse mouth thoroughly
Seek medical attention if irritation, discomfort, or vomiting persists
Immediately call a POISON CONTROL CENTER or seek medical attention
Do not induce vomiting
Rinse mouth and then drink plenty of water

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not available.

Delayed symptoms and effects:

Not determined or not available.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not available.

Notes for the doctor:

Not determined or not available.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Use dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors
Vapors can flow to distant ignition sources and flashback
Liquid is volatile and may generate an explosive atmosphere

Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing
Refer to Section 8

Special precautions:

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols
Avoid contact with skin, eyes and clothing

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational
Beware of vapors accumulating to form explosive concentrations
Vapors can accumulate in low areas

Environmental precautions:
Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:
Wear protective eye wear, gloves and clothing
Use spark-proof tools and explosion-proof equipment

Reference to other sections:
Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:
Do not eat, drink, smoke or use personal products when handling chemical substances.
Avoid breathing mist or vapor.
Use only non-sparking tools.
Take precautionary measures against electrostatic discharges.

Conditions for safe storage, including any incompatibilities:
Store in a cool, well-ventilated area.
Keep container tightly sealed.
Keep away from all ignition sources: open flames, hot surfaces, direct sunlight, spark sources.
Store locked up.
Use appropriate containment to avoid environmental contamination.
Protect from freezing and physical damage.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
United States (OSHA)	Methanol	67-56-1	OSHA PEL TWA 200 ppm
	Methanol	67-56-1	OSHA PEL TWA 260 mg/m³
ACGIH	Methanol	67-56-1	ACGIH TLV STEL 250 ppm [skin]
	Methanol	67-56-1	ACGIH TLV TWA 200 ppm [skin]
NIOSH	Methanol	67-56-1	NIOSH REL TWA 200 ppm [skin]
	Methanol	67-56-1	NIOSH REL TWA 260 mg/m³ [skin]
	Methanol	67-56-1	NIOSH REL ST 250 ppm [skin]
	Methanol	67-56-1	NIOSH REL ST 325 mg/m³ [skin]

Biological limit values:
No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:
Not determined or not applicable.

Methanol (Methyl Alcohol)

Appropriate engineering controls:
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
Use explosion-proof ventilation equipment.

Personal protection equipment

Eye and face protection:
Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:
Select glove material impermeable and resistant to the substance.

Respiratory protection:
When necessary, use NIOSH-approved breathing equipment.

General hygienic measures:
Wash hands before breaks and at the end of work.
Avoid contact with skin, eyes and clothing.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance (physical state, color):	Clear, colorless liquid
Odor:	Alcohol
Odor threshold:	Not determined or not available.
pH-value:	Not determined or not available.
Melting/Freezing point:	-98°C
Boiling point/range:	64.7°C at 760 mmHg
Flash point:	12°C
Evaporation rate:	5.2
Flammability (solid, gaseous):	Flammable liquid
Explosion limit upper:	31 vol.%
Explosion limit lower:	6 vol.%
Vapor pressure:	128 hPa at 20°C
Vapor density:	1.11 (Air = 1)
Density:	Not determined or not available.
Relative density:	0.79 g/cm3
Solubilities:	Miscible at 20°C.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	455°C
Decomposition temperature:	Not determined or not available.
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

SECTION 10: Stability and reactivity

Methanol (Methyl Alcohol)

Reactivity:
Vapours may form explosive mixture with air.

Chemical stability:
Stable under normal conditions of use and storage.

Possibility of hazardous reactions:
None under normal conditions of use and storage.

Conditions to avoid:
Excess heat, Incompatible Materials, flames, or sparks.

Incompatible materials:
Oxidizing agents, reducing agents, alkali metals, acids, sodium, potassium, metals as powders, acid chlorides, acid anhydrides, powdered magnesium, and aluminum.

Hazardous decomposition products:
Carbon monoxide, formaldehyde.

SECTION 11: Toxicological information

Acute toxicity
Assessment: Toxic if swallowed Toxic in contact with skin Toxic if inhaled
Product data: No data available.
Substance data: No data available.

Skin corrosion/irritation
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Serious eye damage/irritation
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Respiratory or skin sensitization
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Carcinogenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.
International Agency for Research on Cancer (IARC): None of the ingredients are listed.
National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Reproductive toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.

Methanol (Methyl Alcohol)

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Causes damage to organs

Product data: No data available.

Substance data:

Name	Result
Methanol	Causes damage to the optic nerve and central nervous system.

Specific target organ toxicity (repeated exposure)

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

Product data: No data available.

Substance data: No data available.

Aspiration toxicity

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

Product data: No data available.

Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

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

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

Methanol (Methyl Alcohol)

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)

UN number	UN1230
UN proper shipping name	Methanol
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	UN1230
UN proper shipping name	Methanol
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN1230
UN proper shipping name	Methanol
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	None
Special precautions for user	None

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL):

67-56-1	Methanol	Listed

Non-domestic substances list (NDSL): Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations

and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 2-3-0

HMIS: 2-3-0-X

Initial preparation date: 01.23.2018

End of Safety Data Sheet

Sodium Acetate, Anhydrous, ACS Grade

SECTION 1: Identification

Product identifier

Product name: Sodium Acetate, Anhydrous, ACS Grade
Product code: KEMSA1050-15G

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.
Uses advised against: Not determined or not applicable.
Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:	**Supplier:**
AquaPhoenix Scientific 860 Gitts Run Road Hanover PA 17331 (717) 632-1291	AquaPhoenix Scientific Inc. 860 Gitts Run Road Hanover PA 17331 (717) 632-1291

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard(s) identification

GHS classification: Not a hazardous substance or mixture
Label elements

Hazard pictograms: None

Signal word: None

Hazard statements: None
Precautionary statements: None
Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 127-09-3	Sodium acetate	100

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway

After skin contact:
Rinse affected area with soap and water
If symptoms develop or persist, seek medical attention

After eye contact:
Rinse/flush exposed eye(s) gently using water for 15-20 minutes
If symptoms develop or persist, seek medical attention

After swallowing:
Rinse mouth thoroughly
Seek medical attention if irritation, discomfort, or vomiting persists

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:
Not determined or not applicable.

Delayed symptoms and effects:
Not determined or not applicable.

Immediate medical attention and special treatment

Specific treatment:
Not determined or not applicable.

Notes for the doctor:
Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:
Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:
Not determined or not applicable.

Specific hazards during fire-fighting:
Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:
Wear protective eye wear, gloves and clothing
Refer to Section 8

Special precautions:
Avoid inhaling gases, fumes, dust, mist, vapor and aerosols
Avoid contact with skin, eyes and clothing

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ensure adequate ventilation
Ensure air handling systems are operational
Wear protective eye wear, gloves and clothing

Environmental precautions:
Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.
Avoid breathing mist or vapor.

Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

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

Biological limit values:

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

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

General hygienic measures:

Wash hands before breaks and at the end of work.
Avoid contact with skin, eyes and clothing.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White solid
Odor	Odorless to slight acetic odor
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	324°C
Initial boiling point/range	Not determined or not available.
Flash point (closed cup)	Not determined or not available.
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.

Sodium Acetate, Anhydrous, ACS Grade

Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	Approx. 1.8 g/cm³
Solubilities	Very soluble.; 1190 g/l at 20°C
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

Additional property	Material is hygroscopic.

SECTION 10: Stability and reactivity

Reactivity:
Nonreactive under normal conditions.
Chemical stability:
No decomposition if used and stored according to specifications. Hygroscopic.
Possibility of hazardous reactions:
Explosive mixture may form with fluorine and potassium nitrite.
Conditions to avoid:
Store away from oxidizing agents, strong acids or bases.
Incompatible materials:
Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products:
Carbon oxides (CO, CO2). Oxides of sodium.

SECTION 11: Toxicological information

Acute toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.
Skin corrosion/irritation
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.
Serious eye damage/irritation
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.
Respiratory or skin sensitization
Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.
Substance data: No data available.

Carcinogenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.
International Agency for Research on Cancer (IARC): None of the ingredients are listed.
National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Reproductive toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Specific target organ toxicity (single exposure)
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Specific target organ toxicity (repeated exposure)
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Aspiration toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Information on likely routes of exposure: No data available.
Symptoms related to the physical, chemical and toxicological characteristics: No data available.
Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Chronic (long-term) toxicity
Product data: No data available.
Substance data: No data available.

Persistence and degradability
Product data: No data available.
Substance data: No data available.

Bioaccumulative potential
Product data: No data available.
Substance data: No data available.

Mobility in soil

Product data: No data available.
Substance data: No data available.
Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:
It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

127-09-3	Sodium acetate	Listed

Significant New Use Rule (TSCA Section 5): Not determined.
Export notification under TSCA Section 12(b): Not determined.
SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

Sodium Acetate, Anhydrous, ACS Grade

SARA Section 302 extremely hazardous substances: Not determined.

SARA Section 313 toxic chemicals:

127-09-3	Sodium acetate	Not Listed

CERCLA: Not determined.

RCRA: Not determined.

Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know:

127-09-3	Sodium acetate	Not Listed

New Jersey Right to Know:

127-09-3	Sodium acetate	Not Listed

New York Right to Know:

127-09-3	Sodium acetate	Not Listed

Pennsylvania Right to Know:

127-09-3	Sodium acetate	Not Listed

California Proposition 65: None of the ingredients are listed.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 1-0-0

HMIS: 1-0-0-X

Initial preparation date: 02.06.2018

End of Safety Data Sheet

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 08, 2019

1 Identification

· **Product identifier**

· **Trade name: Sulfuric Acid, 12.0N**
· **Product code:** KEMSA1692-D

· **Recommended use and restriction on use**
· **Recommended use:** Laboratory chemicals
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331
Phone: (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
· **Distributor:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331
(717) 632-1291

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**

Met. Corr.1	H290	May be corrosive to metals.
Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS05

· **Signal word:** Danger
· **Hazard statements:**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
· **Precautionary statements:**
P234 Keep only in original container.
P260 Do not breathe mist/vapors/spray.
P264 Wash thoroughly after handling.

(Cont'd. on page 2)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 08, 2019

Trade name: Sulfuric Acid, 12.0N

(Cont'd. of page 1)

P280	Wear protective gloves/protective clothing/eye protection.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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/doctor.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7732-18-5	Water	25-50%
7664-93-9	Sulfuric acid Met. Corr.1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	50-75%

· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately remove any clothing soiled by the product.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
Seek immediate help for blistering or open wounds.
· **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Strong caustic effect on skin and mucous membranes.
Gastric or intestinal disorders when ingested.
Eye damage.

(Cont'd. on page 3)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 08, 2019

Trade name: Sulfuric Acid, 12.0N

(Cont'd. of page 2)

Acidosis
· **Danger:**
Danger of gastric perforation.
Causes serious eye damage.
Danger of impaired breathing.
· **Indication of any immediate medical attention and special treatment needed:**
Medical supervision for at least 48 hours.
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** None.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
· **Environmental precautions** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up**
Use limestone to neutralize and/or absorb spill.
Clean the affected area carefully; suitable cleaners are:
Warm water
Dispose of the collected material according to regulations.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
Avoid breathing mist, vapors, or spray.

(Cont'd. on page 4)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 08, 2019

Trade name: Sulfuric Acid, 12.0N

(Cont'd. of page 3)

Avoid contact with the eyes and skin.
Open and handle receptacle with care.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Store in cool, dry conditions in well sealed receptacles.
Store only in the original receptacle.
Unsuitable material for receptacle: steel.
Unsuitable material for receptacle: aluminium.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with alkalis (caustic solutions).
Store away from metals.
· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
7664-93-9 Sulfuric acid	
PEL (USA)	Long-term value: 1 mg/m³
REL (USA)	Long-term value: 1 mg/m³
TLV (USA)	Long-term value: 0.2* mg/m³ *as thoracic fraction
EL (Canada)	Long-term value: 0.2 mg/m³ ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.2 mg/m³
LMPE (Mexico)	Long-term value: 0.2* mg/m³ A2;*fracción torácica

· **Exposure controls**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not inhale dust / smoke / mist.
· **Engineering controls:** Provide adequate ventilation.
· **Breathing equipment:** Use suitable respiratory protective device when high concentrations are present.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
· **Material of gloves**
Nitrile rubber, NBR

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Neoprene gloves
Natural rubber, NR
Laminated film gloves.

· **Not suitable are gloves made of the following materials:** PVA gloves
· **Eye protection:**

Safety glasses

· **Body protection:** Protective work clothing
· **Limitation and supervision of exposure into the environment**
No relevant information available.
· **Risk management measures** No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Appearance:**	
Form:	Liquid
Color:	Colorless
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value at 20 °C (68 °F):**	<2.0
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	Not determined.
· **Flash point:**	The product is not flammable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties:**	Not determined.
· **Vapor pressure:**	Not determined.
· **Density:**	
Relative density:	1.15-1.30
Vapor density:	Not determined.
Evaporation rate:	Not determined.
· **Solubility in / Miscibility with**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.

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· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Other information**	No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Corrosive action on metals.
Reacts with certain metals.
Reacts with alkali (lyes).
Reacts with oxidizing agents.
· **Conditions to avoid** No relevant information available.
· **Incompatible materials**
Metals.
Alkalis
Strong oxidizers such as perchlorates, bromates, and nitrates; hydrofluoric acid.
· **Hazardous decomposition products** Sulfur oxides (SOx)

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.
· **LD/LC50 values that are relevant for classification:** None.
· **Primary irritant effect:**
· **On the skin:** Strong caustic effect on skin and mucous membranes.
· **On the eye:** Strong caustic effect.
· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**		
None of the ingredients are listed.		

· **NTP (National Toxicology Program):**		
7664-93-9	Sulfuric acid	K

· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

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· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, the aqueous waste, emptied into drains, is only low water-dangerous.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Dilute concentrate with water and neutralize afterwards with suitable material (lime or chalk). The formed salts are inert and pose little hazard.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**	
· **DOT, ADR/RID/ADN, IMDG, IATA**	UN1830
· **UN proper shipping name**	
· **DOT**	Sulfuric acid
· **ADR/RID/ADN, IMDG**	SULPHURIC ACID

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· **IATA**	Sulphuric acid
· **Transport hazard class(es)**	
· **DOT**	
	
· **Class**	8
· **Label**	8
· **ADR/RID/ADN**	
	
· **Class**	8 (C1)
· **Label**	8
· **IMDG, IATA**	
	
· **Class**	8
· **Label**	8
· **Packing group**	
· **DOT, ADR/RID/ADN, IMDG, IATA**	II
· **Environmental hazards**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances
· **Danger code (Kemler):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Acids
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· **Hazardous substance:**	1000 lbs, 454 kg

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

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· **United States (USA)**
· **SARA**

· **Section 302 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**	
7664-93-9	Sulfuric acid

· **Section 313 (Specific toxic chemical listings):**	
7664-93-9	Sulfuric acid

· **TSCA (Toxic Substances Control Act)**	
7664-93-9	Sulfuric acid
7732-18-5	Water

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**
None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL): (Substances not listed.)**
All ingredients are listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistant, Bio-accumulable, Toxic
vPvB: very Persistent and very Bioaccumulative
OSHA: Occupational Safety & Health Administration
Met. Corr.1: Corrosive to metals – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
· **Sources**

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Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

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