

## Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

**Initial Preparation Date:** 11.09.2021

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**4WD LO**

### SECTION 1: Identification

#### Product Identifier

**Product Name:** 4WD LO

**Product code:** QW-0115

#### Recommended Use of the Product and Restriction on Use

**Relevant Identified Uses:** Acidic detergent for hard surface cleaning.

**Uses Advised Against:** Not determined or not applicable.

**Reasons Why Uses Advised Against:** Not determined or not applicable.

#### Manufacturer or Supplier Details

##### Manufacturer:

##### United States

Quest Car Care Products

3333 Production Ct.

Zeeland, Michigan 49464

616-772-5100

www.questcarcare.com

#### Emergency Telephone Number:

##### United States

CHEMTREC

1-800-424-9300 (24 hrs)

1-800-262-8200 (24 hrs)

1-703-527-3887 (24 hrs (international))

### SECTION 2: Hazard(s) Identification

#### GHS Classification:

Flammable liquids, category 4

Corrosive to metals, category 1

Acute toxicity (oral), category 4

Acute toxicity (inhalation), category 4

Skin corrosion, category 1A

Serious eye damage, category 1

Carcinogenicity, category 1B

Specific target organ toxicity - single exposure, category 2

Specific target organ toxicity - repeated exposure, category 2

#### Label elements

##### Hazard Pictograms:



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**Signal Word:** Danger

**Hazard statements:**

- H290 May be corrosive to metals
- H227 Combustible liquid
- H314 Causes severe skin burns and eye damage
- H318 Causes serious eye damage
- H302 Harmful if swallowed
- H332 Harmful if inhaled
- H371 May cause damage to organs
- H373 May cause damage to organs through prolonged or repeated exposure (inhalation or oral)
- H350 May cause cancer (inhalation)

**Precautionary Statements:**

- P234 Keep only in original container
- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P264 Wash hands/skin thoroughly after contact with or handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P270 Do not eat, drink or smoke when using this product
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P271 Use only outdoors or in a well-ventilated area
- P201 Obtain special instructions before use
- P202 Do not handle until all safety precautions have been read and understood
- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P390 Absorb spillage to prevent material-damage
- 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
- P363 Wash contaminated clothing before reuse
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P310 Immediately call a POISON CENTER/911/PHYSICIAN IF: swallowed, eye contact, skin burns/rash or breathing difficulties.
- P321 Specific treatment (see first aid procedures on the product label in section 4 of this SDS)
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- P330 Rinse mouth
- P312 Call a POISON CENTER/911/PHYSICIAN if you feel unwell.
- P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor/911.
- P314 Get medical advice/attention if you feel unwell
- P308+P313 IF exposed or concerned: Get medical advice/attention
- P370+P378 In case of fire: Use water spray or foam to extinguish [water jet not recommended].
- P406 Store in corrosive resistant/or heavy duty plastic container using a chemical resistant inner liner.
- P405 Store locked up
- P403+P235 Store in a well-ventilated place. Keep cool
- P501 Dispose of contents/container in accordance with local, state and federal regulations.

**Hazards Not Otherwise Classified:** None

## SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
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CAS Number: 7664-93-9	Sulfuric acid	20-30
CAS Number: 111-76-2	2-Butoxyethanol	20-30
CAS Number: 77-92-9	Citric acid	5-10

### Additional Information:

Ingredients not listed here are being withheld as trade secret.

## SECTION 4: First Aid Measures

### Description of First Aid Measures

#### General Notes:

Show this Safety Data Sheet to the doctor in attendance. Take precautions to ensure your own safety before attempting rescue. Wear appropriate safety eyewear, gloves, protective clothing and respiratory protection to prevent exposure. See Section 8 of this SDS for personal protective equipment recommendations. Do not use the mouth to mouth method if victim has ingested or inhaled the product. Give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper device.

Show this Safety Data Sheet to the doctor in attendance.

#### After Inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If symptoms develop or persist, seek medical advice/attention.

#### After Skin Contact:

Treatment is urgent. Seek emergency medical treatment. Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse.

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

#### After Eye Contact:

Immediately rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. Seek immediate medical attention, preferably from an ophthalmologist.

Rinse eyes with plenty of water for several minutes. Remove contact lenses, if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

#### After Swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse

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mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

#### Most Important Symptoms and Effects, Both Acute and Delayed

##### Acute Symptoms and Effects:

Products that are corrosive to metals are often corrosive to the skin, eyes and the respiratory tract.

Exposure to skin may result in redness, pain, burning, inflammation and tissue damage. Exposure to eyes may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision. Exposure via inhalation may result in cough, sore throat, burning sensation and shortness of breath. Exposure via ingestion may result in burns of the mouth and throat, abdominal pain, burning sensation in the throat and chest, nausea, vomiting, shock or collapse.

Eye contact may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision.

Acute oral exposure may lead to dizziness, drowsiness, headache, breathing difficulties, nausea, vomiting, abdominal pain, and lowering of consciousness. Adverse effects are dependent on exposure (dose, concentration, contact time).

Acute inhalation exposure may lead to dizziness, drowsiness, headache, breathing difficulties, nausea, vomiting, abdominal pain, and lowering of consciousness. Adverse effects are dependent on exposure (dose, concentration, contact time).

May cause damage to organs. Effects are dependent on exposure (dose, concentration, contact time).

Product is combustible. Exposure to sources of ignition may cause physical injury.

##### Delayed Symptoms and Effects:

Effects are dependent on exposure (dose, concentration, contact time).

Symptoms of exposure may be delayed.

May cause damage to organs through prolonged or repeated exposure. Effects are dependent on exposure (dose, concentration, contact time).

Exposure may cause cancer. Effects are dependent on exposure (dose, concentration, contact time).

#### Immediate Medical Attention and Special Treatment

##### Specific Treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued.

If exhibiting symptoms of exposure, seek prompt medical attention.

Skin/eye burns require immediate treatment.

##### Notes for the Doctor:

Treat symptomatically.

### SECTION 5: Firefighting Measures

#### Extinguishing Media

##### Suitable Extinguishing Media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

##### Unsuitable Extinguishing Media:

Do not use water jet.

#### Specific Hazards During Fire-Fighting:

Contact with metals may evolve flammable hydrogen gas. Thermal decomposition may produce irritating/toxic fumes/gases.

Thermal decomposition may produce irritating/toxic fumes/gases.

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Combustible liquid. Will be easily ignitable by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation.

#### Special Protective Equipment for Firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

#### Special precautions:

DO NOT GET WATER INSIDE CONTAINERS. Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

Evacuate non-essential personnel. Ventilate closed spaces before entering. Consider initial evacuation for 300 meters in all directions. If tank/rail car is involved in the fire, ISOLATE for 800 meters in all directions. Fight fire from a maximum distance. Move containers from fire area if you can do it without risk. Use water spray/fog for cooling fire exposed containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles. If this is impossible, withdraw from area and let fire burn. Stand by, at a safe distance, with extinguisher ready for possible re-ignition. A vapor-suppressing foam may be used to reduce vapors. Avoid unnecessary run-off of extinguishing media which may cause pollution. Do not handle damaged containers unless specialized to do so.

### SECTION 6: Accidental Release Measures

#### Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Do not get on skin, eyes or on clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling. Remove contaminated clothing and launder before reuse.

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. All equipment used when handling the product must be grounded. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

#### Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

#### Methods and Material for Containment and Cleaning Up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable corrosive resistant containers for future disposal. Do not get water in containers as reaction with water or moist air may release toxic, corrosive or flammable gases. Dispose of in accordance with all applicable regulations

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(see Section 13).

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Harmful if swallowed. Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Avoid breathing dust, mist, fumes, vapors or spray. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Harmful if inhaled. Put on appropriate personal protective equipment, including a self-contained breathing apparatus (see Section 8) before entering area of spill or leak. Avoid breathing dust, mist, fumes, vapors or spray. Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Avoid breathing dust, mist, fumes, vapors or spray. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. A vapor-suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

### Reference to Other Sections:

For personal protective equipment see Section 8. For disposal see Section 13.

## SECTION 7: Handling and Storage

### Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Prevent skin contact. Do not get in eyes. Use only with adequate ventilation. Do not add water to the corrosive product. If it is necessary to mix a corrosive product with water, do so slowly adding the corrosive to cold water, in small amounts, and stir frequently. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use. Keep only in original packaging. Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Do not get in eyes. Avoid contact with skin and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating and lighting equipment. Take action to prevent static discharges. Handle containers with caution. Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

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### Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight and away from exit paths. Store in a corrosion-resistant container with a resistant inner liner. Inspect containers and storage area regularly for signs of leak and damage. Store containers at a convenient height for handling, below eye level if possible. High shelving increases the risk of dropping containers, personal injury and exposure. Ensure that appropriate fire fighting and spill-clean up equipment is readily available. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Store separately. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

### 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
ACGIH	Sulfuric acid	7664-93-9	8-Hour TWA: 0.2 mg/m <sup>3</sup> (thoracic fraction)
	2-Butoxyethanol	111-76-2	8-Hour TWA-PEL: 20 ppm
NIOSH	Sulfuric acid	7664-93-9	REL-TWA: 1 mg/m <sup>3</sup> (10 hr)
	Sulfuric acid	7664-93-9	IDLH: 15 mg/m <sup>3</sup>
	2-Butoxyethanol	111-76-2	IDLH: 700 ppm
OSHA	2-Butoxyethanol	111-76-2	REL-TWA: 24 mg/m <sup>3</sup> (5 ppm [up to 10 hr])
	Sulfuric acid	7664-93-9	8-Hour TWA-PEL: 1 mg/m <sup>3</sup>
	2-Butoxyethanol	111-76-2	8-Hour TWA-PEL: 240 mg/m <sup>3</sup> (50 ppm [Table Z-1])
United States(California)	2-Butoxyethanol	111-76-2	8-Hour TWA: 120 mg/m <sup>3</sup> (25 ppm [Table Z-1-A])
	Sulfuric acid	7664-93-9	8-Hour TWA-PEL: 0.1 mg/m <sup>3</sup>
	Sulfuric acid	7664-93-9	15-Minute STEL: 3 mg/m <sup>3</sup>
	Sulfuric acid	7664-93-9	REL: 120 ug/m <sup>3</sup> (Acute inhalation)
	Sulfuric acid	7664-93-9	REL: 1 ug/m <sup>3</sup> (Chronic inhalation)
	2-Butoxyethanol	111-76-2	8-Hour TWA-PEL: 97 mg/m <sup>3</sup> (20 ppm)
	2-Butoxyethanol	111-76-2	REL: 4700 ug/m <sup>3</sup> (Acute inhalation)
2-Butoxyethanol	111-76-2	REL: 164 ug/m <sup>3</sup> (8-hour Inhalation)	
2-Butoxyethanol	111-76-2	REL: 82 ug/m <sup>3</sup> (Chronic inhalation)	

#### Biological Limit Values:

Country (Legal Basis)	Substance	Identifier	Determinant	Specimen	Sampling time	Permissible limits
ACGIH	2-Butoxyethanol	111-76-2	Butoxyacetic acid (with hydrolysis)	Creatinine in Urine	End of shift	200 mg/g

#### Information on Monitoring Procedures:



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Not determined or not applicable.

### Appropriate Engineering Controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

### Personal Protection Equipment

#### Eye and Face Protection:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection.

Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

#### Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Full body protection should be worn. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

#### Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

#### General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

## SECTION 9: Physical and Chemical Properties

### Information on Basic Physical and Chemical Properties

Appearance	Amber liquid
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<b>Odor</b>	Acrid
<b>Odor threshold</b>	Not determined or not available.
<b>pH</b>	<1.0
<b>Melting point/freezing point</b>	Not determined or not available.
<b>Initial boiling point/range</b>	Not determined or not available.
<b>Flash point (closed cup)</b>	60-90c
<b>Evaporation rate</b>	Not determined or not available.
<b>Flammability (solid, gas)</b>	Not determined or not available.
<b>Upper flammability/explosive limit</b>	Not determined or not available.
<b>Lower flammability/explosive limit</b>	Not determined or not available.
<b>Vapor pressure</b>	Not determined or not available.
<b>Vapor density</b>	Not determined or not available.
<b>Density</b>	1.19-1.24
<b>Relative density</b>	Not determined or not available.
<b>Solubilities</b>	Water
<b>Partition coefficient (n-octanol/water)</b>	Not determined or not available.
<b>Auto/Self-ignition temperature</b>	Not determined or not available.
<b>Decomposition temperature</b>	Not determined or not available.
<b>Dynamic viscosity</b>	Not determined or not available.
<b>Kinematic viscosity</b>	Not determined or not available.
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

## SECTION 10: Stability and Reactivity

### Reactivity:

Not reactive under recommended handling and storage conditions.

### Chemical Stability:

Stable under recommended handling and storage conditions.

### Possibility of Hazardous Reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

### Conditions to Avoid:

Avoid generation of aerosols and mists, extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Avoid confined spaces, extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Extreme heat, open flames, hot surfaces, sparks, ignition sources, static electricity and incompatible materials. Vapor accumulation in low or confined areas.

### Incompatible Materials:

None known.

### Hazardous Decomposition Products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological Information

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### Acute Toxicity

#### Assessment:

Harmful if swallowed.

Harmful if inhaled.

**Product Data:** No data available.

#### Substance Data:

Name	Route	Result
Sulfuric acid	inhalation	LC50 Rat: 375 mg/m <sup>3</sup> (4 hr (aerosol))
	oral	LD50 Rat: 2140 mg/kg
Citric acid	oral	LD50 Mouse: 5400 mg/kg
	dermal	LD50 Rat: > 2000 mg/kg
2-Butoxyethanol	dermal	LD50 Rabbit: 220 mg/kg
	inhalation	LC50 Rat: 450 ppmV (4 hr - Vapor)
	Oral ATE	LD50 Rat: 1200 mg/kg (Annex VI to the CLP)
	oral	LD50 Rat: 470 mg/kg

### Skin Corrosion/Irritation

#### Assessment:

Causes severe skin burns and eye damage.

#### Product Data:

No data available.

#### Substance Data:

Name	Result
Sulfuric acid	Causes severe skin burns.
2-Butoxyethanol	Causes skin irritation.

### Serious Eye Damage/Irritation

#### Assessment:

Causes serious eye damage.

#### Product Data:

No data available.

#### Substance Data:

Name	Result
Sulfuric acid	Causes serious eye damage.
Citric acid	Causes serious eye irritation.
2-Butoxyethanol	Causes serious eye irritation.

### 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:

May cause cancer.

**Product Data:** No data available.

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**Substance Data:** No data available.

## International Agency for Research on Cancer (IARC):

Name	Classification
Sulfuric acid	Group 1
Citric acid	Not Applicable
2-Butoxyethanol	Group 3

## National Toxicology Program (NTP):

Name	Classification
Sulfuric acid	Known to be human carcinogens
Citric acid	Not Applicable
2-Butoxyethanol	Not Applicable

**OSHA Carcinogens:** Not applicable

## 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:

May cause damage to organs.

### Product Data:

No data available.

**Substance Data:** No data available.

## Specific Target Organ Toxicity (Repeated Exposure)

### Assessment:

May cause damage to organs through prolonged or repeated exposure.

### Product Data:

No data available.

### Substance Data:

Name	Result
Sulfuric acid	Repeated or prolonged inhalation may damage the lungs. Risk of tooth erosion upon repeated or prolonged exposure to an aerosol of this substance.

## 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:

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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:

Name	Result
Citric acid	Fish LC50 Pimephales promelas: >100 mg/L (96 hr)
	Aquatic Invertebrates EC50 Dreissena polymorpha: >50 mg/L (48 hr)
2-Butoxyethanol	Aquatic Invertebrates EC50 Daphnia magna: 1,550 mg/L (48 hr)
	Fish LC50 Oncorhynchus mykiss: 1,474 mg/L (96 hr)

### Chronic (Long-Term) Toxicity

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

**Product Data:** No data available.

#### Substance Data:

Name	Result
2-Butoxyethanol	Fish NOEC Danio rerio: > 100 mg/L (21 d)
	Aquatic Invertebrates NOEC Daphnia magna: 100 mg/L (21 d)

### Persistence and Degradability

**Product Data:** No data available.

#### Substance Data:

Name	Result
Citric acid	Readily biodegradable in water (97% degradation after 28 days).
2-Butoxyethanol	Readily biodegradable (90.4% degradation after 28 days).

### Bioaccumulative Potential

**Product Data:** No data available.

#### Substance Data:

Name	Result
Citric acid	Low potential for bioaccumulation (BCF: 3.2 L/kg).
2-Butoxyethanol	Not expected to bioaccumulate (log Kow = 0.83).

### Mobility in Soil

**Product Data:** No data available.

**Substance Data:** No data available.

### Results of PBT and vPvB assessment

#### Product Data:

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

#### Substance Data:

##### PBT assessment:

Sulfuric acid	The substance is not PBT.
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Citric acid	Substance is not PBT
2-Butoxyethanol	This substance is not PBT.

### vPvB assessment:

Sulfuric acid	The substance is not vPvB.
Citric acid	Substance is not vPvB
2-Butoxyethanol	This substance is not vPvB.

**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

### Contaminated packages:


Not determined or not applicable.

## SECTION 14: Transport Information


### United States Transportation of Dangerous Goods (49 CFR DOT)

<b>UN Number</b>	3264
<b>UN Proper Shipping Name</b>	Corrosive, liquid, acidic, inorganic, N.O.S. (Sulfuric Acid)
<b>UN Transport Hazard Class(es)</b>	8 
<b>Packing Group</b>	II
<b>Environmental Hazards</b>	None
<b>Special Precautions for User</b>	None

### International Maritime Dangerous Goods (IMDG)

<b>UN Number</b>	3264
<b>UN Proper Shipping Name</b>	Corrosive, liquid, acidic, inorganic, N.O.S. (Sulfuric Acid)
<b>UN Transport Hazard Class(es)</b>	8 
<b>Packing Group</b>	II
<b>Environmental Hazards</b>	None
<b>Special Precautions for User</b>	None

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

<b>UN Number</b>	3264
<b>UN Proper Shipping Name</b>	Corrosive, liquid, acidic, inorganic, N.O.S. (Sulfuric Acid)
<b>UN Transport Hazard Class(es)</b>	8 
<b>Packing Group</b>	II
<b>Environmental Hazards</b>	None

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Special Precautions for User	None
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## SECTION 15: Regulatory Information

### United States Regulations

**Inventory Listing (TSCA):** All ingredients are listed-active or exempt.

**Significant New Use Rule (TSCA Section 5):** None of the ingredients are listed.

**Export Notification under TSCA Section 12(b):** None of the ingredients are listed.

#### SARA Section 302 Extremely Hazardous Substances:

7664-93-9	Sulfuric acid	Listed
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#### SARA Section 313 Toxic Chemicals:

7664-93-9	Sulfuric acid	Listed
111-76-2	2-Butoxyethanol	Listed

#### CERCLA:

7664-93-9	Sulfuric acid	Listed	1000 lb
111-76-2	2-Butoxyethanol	Listed	N/A

**RCRA:** None of the ingredients are listed.

#### Section 112(r) of the Clean Air Act (CAA):

7664-93-9	Sulfuric acid	Listed
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#### Massachusetts Right to Know:

7664-93-9	Sulfuric acid	Listed
111-76-2	2-Butoxyethanol	Listed

#### New Jersey Right to Know:

7664-93-9	Sulfuric acid	Listed
111-76-2	2-Butoxyethanol	Listed

#### New York Right to Know:

7664-93-9	Sulfuric acid	Listed
111-76-2	2-Butoxyethanol	Listed

#### Pennsylvania Right to Know:

7664-93-9	Sulfuric acid	Listed
111-76-2	2-Butoxyethanol	Listed

#### California Proposition 65:

**⚠️WARNING:** This product can expose you to Sulfuric acid; which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**Additional information:** Not determined.

## 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

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specified in the text. The responsibility to provide a safe workplace remains with the user.

**NFPA:** 0-0-0

**HMIS:** 3-1-2-X

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**End of Safety Data Sheet**