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SAFETY DATA SHEET

Oxalic acid (0.05M)

1. Product Identification

1.1. Product Identifiers

1.1.1. Name:

Oxalic acid (0.05M)

1.1.2. Part Number:

2249

1.1.3. CAS Number:

144-62-7

1.2. Relevant Identified Uses and Uses Advised Against

1.2.1. Identified Uses:

Laboratory Chemicals, Synthesis of substances

1.2.2. Advised Against:

N/A

1.3. Details of Supplier of Safety Data Sheet

1.3.1. Company:

ARTMS Inc
8575 Commerce Court
Burnaby, BC, V5A 4N5
Canada

1.3.2. Phone Number:

+1 (604) 228 4016

1.4. Emergency Contact Phone Number

1.4.1. Emergency Phone Number:

1-888-CANUTEC (226-8832) (North American use) and/or 1-613-996-6666 (International use)

2. Hazard Identification

2.1. Classification of Substance/Mixture

GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17)

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Dermal (Category 4), H312

Serious eye damage (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. GHS Label Elements, Including Primary Statements

2.2.1. Pictogram:



2.2.2. Signal Word:

Danger

2.2.3. Hazard statement(s):

H302 + H312 Harmful if swallowed or in contact with skin.

H318 Causes serious eye damage

2.2.4. Precautionary statement(s):

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink, or smoke when using this product.

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

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.

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/doctor.

P362 + P364 Take off contaminated clothing and wash it before reuse. P501 Dispose of contents/ container to an approved waste disposal plant.

2.3. Hazards Not Otherwise Classified (HNOC) or covered by GHS – none

3. Composition/Information on Ingredients

3.1. Substances/Mixtures

3.1.1. Formula: C₂H₂O₄

3.1.2. Molecular Weight: 90.03 g/mol

Substance	Composition (wt%)	CAS Number	EC Number	Classification
Water	99.55	7732-18-5	231-791-2	N/A
Oxalic acid	0.45	144-62-7	205-634-3	Acute Tox. 4; Eye Dam. 1; H302, H312, H318 Concentration Limits: <= 100%

4. First Aid Measures

4.1. Description of First Aid Measures

4.1.1. General Advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

4.1.2. If inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4.1.3. In case of skin contact:

Wash off with soap and plenty of water. Consult a physician.

4.1.4. In case of eye contact:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.1.5. If swallowed:

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most Important Symptoms and Effects (Both Acute and Delayed)

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3. Indication of and Immediate Medical Attention and Special Treatment Needed


No data available.

5. Fire Fighting Measures

5.1. Extinguishing Media

5.1.1. Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

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5.2. Special Hazards Arising from the Substance/Mixture

Carbon oxides

5.3. Advice for Firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further Information

No data available.

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2. Environmental Precautions

Do not let product enter drains.

6.3. Methods and Materials for Containment and Cleaning

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4. Reference to Data Sheet Sections

For disposal see section 13.

7. Handling and Storage

7.1. Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage class (TRGS 510): 13: Non-Combustible Solids

7.2.1. Storage conditions:

Keep container tightly closed in a dry and well-ventilated place.

7.2.2. Incompatible products/materials/conditions

Moisture sensitive.

7.3. Specific End Use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure Controls/Personal Protection

8.1. Control Parameters

Component	CAS Number	Value	Control Parameters	Basis
Oxalic acid	144-62-7	TWAEV	1 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	2 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	1 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		STEL	2 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWA	1 mg/m ³	Canada. British Columbia OEL
		STEL	2 mg/m ³	Canada. British Columbia OEL
		TWA	1 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		STEL	2 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)

8.2. Exposure Controls

8.2.1. Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2. Personal Protective Equipment:

8.2.2.1. Eye/face protection:

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

8.2.2.2. Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

8.2.2.3. Body protection:

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

8.2.2.4. Respiratory protection:

Here risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

8.2.2.5. Control of environmental exposure:

Do not let product enter drains.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Property	Data/Value
Appearance	Crystalline – White crystals
Odor	odorless
Odor Threshold	No Data Available
pH	1.3 at 9 g/l

Melting/Freezing Point	Melting point/range: 189.5 °C (373.1 °F) - dec.
Initial Boiling Point and Range	157 °C 315 °F at 1013 hPa
Flash Point	No data available
Evaporation Rate	No data available
Flammability	No data available
Upper/Lower Flammability/Explosive Limits	No data available
Vapor Pressure	< 0.01 hPa at 20 °C (68 °F)
Vapor Density	No data available
Relative Density	1.9 g/cm ³ at 25 °C (77 °F)
Water Solubility	108 g/l at 25 °C (77 °F) - soluble
Partition Coefficient: n-octanol/water	log Pow: -1.7 at 23 °C (73 °F)
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No data available
Oxidizing Properties	No data available

9.2. Other Safety Information

Surface Tension 70.1 mN/m at 0.014 at 25 °C (77 °F)

10. Stability and Reactivity

10.1. Reactivity

No data available.

10.2. Chemical Stability


Stable under recommended storage conditions.

10.3. Possibility of Hazardous Reactions

No data available.

10.4. Conditions to Avoid

Avoid moisture.

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10.5. Incompatible Materials

Strong oxidizing agents.

10.6. Hazardous Decomposition Properties

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

11. Toxicology

11.1. Information on Toxicological Effects

11.1.1. Acute toxicity:

LD50 Oral - Rat - female - 1,080 mg/kg

Inhalation: No data available

LD50 Dermal - Rabbit - 20,000 mg/kg

11.1.2. Skin corrosion/irritation:

Skin – Rabbit

Result: No skin irritation

(OECD Test Guideline 404)

11.1.3. Serious eye damage/eye irritation:

Eyes – Rabbit

Result: Risk of serious damage to eyes. - 24 h

(OECD Test Guideline 405)

11.1.4. Respiratory or skin sensitization:

Mouse

Result: Does not cause skin sensitization.

11.1.5. Germ cell mutagenicity:

No data available

S. typhimurium

Result: negative

11.1.6. Carcinogenicity:

No data available

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

11.1.7. Reproductive toxicity:

No data Available.

11.1.8. Specific target organ toxicity – single exposure:

No data Available.

11.1.9. Specific target organ toxicity – repeated exposure:

No data Available.

11.1.10. Aspiration hazard:

No data Available.

11.1.11. Additional information:

Repeated dose toxicity - Lowest observed adverse effect level - 150 mg/kg RTECS: RO2450000

Kidney injury may occur. Contact with eyes can cause: Damage to the eyes., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

12. Ecological Information

12.1. Toxicity

Toxicity to fish	static test LC50 - Leuciscus idus melanotus - 160 mg/l - 48 h
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - Daphnia magna (Water flea) - 162.2 mg/l - 48 h (OECD Test Guideline 202)

12.2. Persistence and Degradability

Biodegradability	aerobic - Exposure time 20 d Result: 89 % - Readily biodegradable.
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12.3. Bio-accumulative Potential

No data available.

12.4. Mobility in Soil


No data available.

12.5. Results of PBT and vPvB Assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6. Other Adverse Effects

No data available.

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13. Disposal Considerations

13.1. Waste Treatment Methods

13.1.1. Product:

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

13.1.2. Contaminated Packaging:

Dispose of as unused product.

14. Transport Information

14.1. DOT (US)

Not dangerous goods

14.2. IMDG

Not dangerous goods

14.3. IATA

Not dangerous goods

15. Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

16. Other Information

16.1. Further Information

No further data available.

Disclaimer:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product regarding appropriate safety precautions. It does not represent any guarantee of the properties of the product. ARTMS Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

END OF SDS