

Safety Data Sheet

Classified according to WHMIS 2015

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Citric Acid, 45% (w/w), with 5 ppm Iron

Product Number: R2125450

Other Identifying Product Numbers: R2125450-1A

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive

Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements:	Precautionary Statements:
Eye Damage / Irritation	Category 2	H319	P264, P280, P305+P351+P338, P337+P313

2.2. GHS Label Elements

Pictograms:



Safety Data Sheet

Signal Word: **Warning**

Hazard Statements:

Hazard Number	Hazard Statement
H319	Causes serious eye irritation.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P264	Wash arms, hands and face thoroughly after handling.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical attention.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H ₂ O	18.01 g/mol	7732-18-5	55.08
Citric Acid	C ₆ H ₈ O ₇	192.12 g/mol	77-92-9	44.92
Nitric Acid	HNO ₃	63.01 g/mol	7697-37-2	< 0.1
Iron	Fe	55.84 g/mol	7439-89-6	< 0.1

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: No action required to be taken. If necessary, wash areas of contact with water.

Ingestion: No action required to be taken. If necessary, dilute with water.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes serious eye irritation.



Safety Data Sheet

4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

Safety Data Sheet

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-STEL	USA	4 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	2 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TWA	USA	2 ppm TWA; 5 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Safety Data Sheet

Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

8.2. Exposure Controls

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: No specific controls are needed. Normal room ventilation is adequate.

Skin Protection: Wear protective gloves and eye protection.

Eye Protection: Wear protective gloves and eye protection.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection.



Safety Data Sheet

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Colorless to slightly yellow liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: < 2

Melting/Freezing Point: Data not available.

Initial Boiling Point/Range: Data not available.

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.22

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Potentially explosive reaction with metal nitrates.

10.4. Hazardous Decomposition Products

May emit irritating fumes when heated to decomposition.



Safety Data Sheet

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

Data not available.

Skin Corrosion and Irritation:

Not applicable.

Serious Eye Damage and Irritation:

Causes serious eye irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Not applicable.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

Not applicable.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.



Safety Data Sheet

SECTION 12: Ecological Information

12.1. Ecotoxicity

Not applicable.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

Safety Data Sheet

14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Nitric Acid (CAS # 7697-37-2): "1000 lb EPCRA RQ" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): "1000 lb TPQ" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): 1000 lb EPCRA RQ

Nitric Acid (CAS # 7697-37-2): 1000 lb TPQ

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Nitric Acid (CAS # 7697-37-2): "1000 lb final RQ; 454 kg final RQ" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): 1000 lb final RQ; 454 kg final RQ

Safety Data Sheet

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Nitric Acid (CAS # 7697-37-2): "1.0 % de minimis concentration" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): 1.0 % de minimis concentration

15.5. Massachusetts Right-to-Know Substance List

Nitric Acid (CAS # 7697-37-2): "Extraordinarily hazardous" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous

15.6. Pennsylvania Right-to-Know Hazardous Substances

Nitric Acid (CAS # 7697-37-2): "Environmental hazard" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): "Present" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): Environmental hazard

Nitric Acid (CAS # 7697-37-2): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

15.7. New Jersey Worker and Community Right-to-Know Components

Nitric Acid (CAS # 7697-37-2): "corrosive; reactive - second degree" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): "SN 1356 500 lb TPQ" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): "sn 1356" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): corrosive; reactive - second degree

Nitric Acid (CAS # 7697-37-2): sn 1356

Nitric Acid (CAS # 7697-37-2): SN 1356 500 lb TPQ

Nitric Acid (CAS # 7697-37-2): sn 3722

Nitric Acid (CAS # 7697-37-2): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

15.8. California Proposition 65

Not listed.

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDL)

Iron (CAS # 7439-89-6): "Present" As Iron [7439-89-6] (DSL)

Iron (CAS # 7439-89-6): Present (DSL)

Nitric Acid (CAS # 7697-37-2): "Present" As Nitric acid [7697-37-2] (DSL)

Nitric Acid (CAS # 7697-37-2): Present (DSL)

Citric Acid (CAS # 77-92-9): "Present" As Citric acid [77-92-9] (DSL)

Citric Acid (CAS # 77-92-9): Present (DSL)

Water (CAS # 7732-18-5): "Present" As Water [7732-18-5] (DSL)

Water (CAS # 7732-18-5): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Safety Data Sheet

Iron (CAS # 7439-89-6): "Present (ACTIVE)" As Iron [7439-89-6]

Iron (CAS # 7439-89-6): Present (ACTIVE)

Nitric Acid (CAS # 7697-37-2): "Present (ACTIVE)" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): Present (ACTIVE)

Citric Acid (CAS # 77-92-9): "Present (ACTIVE)" As 1,2,3-Propanetricarboxylic acid, 2-hydroxy- [77-92-9]

Citric Acid (CAS # 77-92-9): Present (ACTIVE)

Water (CAS # 7732-18-5): "Present (ACTIVE)" As Water [7732-18-5]

Water (CAS # 7732-18-5): Present (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Iron (CAS # 7439-89-6): "231-096-4" As Iron [7439-89-6]

Iron (CAS # 7439-89-6): 231-096-4

Nitric Acid (CAS # 7697-37-2): "231-714-2" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): 231-714-2

Citric Acid (CAS # 77-92-9): "201-069-1" As Citric acid [77-92-9]

Citric Acid (CAS # 77-92-9): 201-069-1

Water (CAS # 7732-18-5): "231-791-2" As Water [7732-18-5]

Water (CAS # 7732-18-5): 231-791-2

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Causes serious eye irritation.

Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

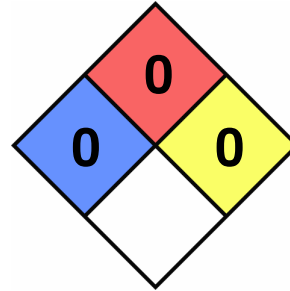
Biohazardous Infectious Materials Hazard Class: Not Applicable.



Safety Data Sheet

16.3. National Fire Protection Association (NFPA) Rating

Health: 0
Flammability: 0
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2025-01-30

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.