



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Perchloric Acid, 10% in Methanol

Product Number R5517010

Other Identifying Product Numbers R5517010-1C

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 412 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

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SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Acute Toxicity - Oral	Category 3	H301	P264,P270,P301+P310,P321,P330,P405,P501
Acute Toxicity - Dermal	Category 3	H311	P280,P302+P352,P312,P321,P361+P364,P405,P501
Acute Toxicity - Inhalation (Vapors)	Category 3	H331	P261,P271,P304+P340,P311,P321,P403+P233,P405,P501
Flammable Liquids	Category 2	H225	P210,P233,P240,P241,P242,P243,P280,P303+P361+P353,P370+P378,P403+P235,P501
Skin Corrosion / Irritation	Category 1	H314	P260,P264,P280,P301+P330+P331,P303+P361+P353,P363,P304+P340,P310,P321,P305+P351+P338,P405,P501
Serious Eye Damage / Eye Irritation	Category 1	H318	P280,P305+P351+P338,P310
Reproductive Toxicity	Category 1B	H360	P201,P202,P280,P308+P313,P405,P501
Specific Target Organ Toxicity - Single Exposure	Category 2	H371	P260,P264,P270,P308+P311,P405,P501
Specific Target Organ Toxicity - Single Exposure - Transient Effects	Category 3 - Narcotic Effects	H336	P261,P271,P304+P340,P312,P403+P233,P405,P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.



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Hazard Number	Hazard Statement
H225	Highly flammable liquid and vapor
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H336	May cause drowsiness or dizziness
H360	May damage fertility or the unborn child
H371	May cause damage to organs

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

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Prevention

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharge.
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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.
P308+P311	If exposed or concerned: Call a poison center or doctor.
P330	Rinse mouth.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish.

Storage

Precautionary Number	Precautionary Statement
P403+P233+P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

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2.4. Ingredients of Unknown Acute Toxicity

13.3 percent of this mixture consists of ingredient(s) of unknown acute dermal and inhalation toxicity.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
methanol	Methyl Alcohol	67-56-1	80.97
perchloric acid	Perchloric Acid	7601-90-3	13.32
water	Water	7732-18-5	5.71

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

Ingestion: IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Results in drying and cracking which can lead to secondary infections and dermatitis. May cause burns, redness and pain.

4.2. Most Important Symptoms and Effects, Acute and Delayed

May damage fertility or the unborn child DANGER! Flammable. Corrosive. Keep away from heat, sparks and open flames. Keep container closed. Use with adequate ventilation. Avoid prolonged breathing of vapor or contact with skin, eyes or clothing. Avoid ingestion. If ingested, do not induce vomiting. Give large quantity of water and call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: Results in drying and cracking which can lead to secondary infections and dermatitis. May cause burns, redness and pain. CHRONIC EFFECTS / CARCINOGENICITY: Repeated exposure may cause skin rash and possible sensitization.

4.3. Immediate 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. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

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SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish. Water spray

5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

Highly flammable liquid and vapor May decompose explosively when heated. Not combustible, but if involved in a fire decomposes to produce irritants and toxic gases. Closed containers may rupture violently when heated.

5.3. Special Protective Equipment and Precautions for Firefighters

Wear special protective clothing and positive pressure self-contained breathing apparatus. Natural rubber, Neoprene, nitrile rubber, or polyvinyl chloride barrier recommended.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Ground and bond container and receiving equipment. Use explosion-proof equipment. Use non-sparking tools. Take action to prevent static discharge. Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Stop or control the leak, if this can be done without undue risk. Absorb in noncombustible material for proper disposal. Prompt cleanup and removal are necessary.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Store in secure, flammable storage area away from all sources of ignition. Empty containers may be hazardous since they retain product residues.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

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U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

Chemical Name	CAS Number	Exposure Limit
Methyl Alcohol	67-56-1	200 ppm TWA; 260 mg/m ³ TWA

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

Chemical Name	CAS Number	Exposure Limit
Methyl Alcohol	67-56-1	250 ppm STEL

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Methyl Alcohol	67-56-1	200 ppm TWA

8.2. Engineering Controls

Use only outdoors or in a well-ventilated area. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source. Use explosion proof equipment.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved atmosphere supplied respirator must be worn.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	liquid
Color:	Colorless
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Data not available.
Boiling Point/Range:	Approximately 80°C
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	18 °C (calculated)
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	Data not available.
Kinematic Viscosity:	Data not available.
Solubility:	miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	0.9
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	Data not available.

NOTE: Flash point was calculated according to the method of Gmehling and Rasmussen (Ind. Eng. Chem. Fundament, 21, 186, (1982)), as allowed by GHS Rev 7, section 2.6.4.2.3.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Strong oxidizing agents such as Nitrates, Perchlorates or Sulfuric Acid, heat, sparks, open flame. Will attack some forms of plastics, rubber and coatings. May react with metallic aluminum and generate hydrogen gas.

10.4. Hazardous Decomposition Products

Will not occur.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 121 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Methyl Alcohol	67-56-1	Oral LD50 Acute Toxicity Estimate 100 mg/kg (Source: ECHA)
Perchloric Acid	7601-90-3	Oral LD50 1100 mg/kg (Source: Canada_WHMIS)

Acute Toxicity - Dermal Exposure:

Dermal acute toxicity estimate (ATE): 321 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Methyl Alcohol	67-56-1	Dermal LD50 Acute Toxicity Estimate 300 mg/kg (Source: ECHA)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, vapor): 3.2116 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Methyl Alcohol	67-56-1	Inhalation LC50 Acute Toxicity Estimate 3 mg/L 4 h (Source: ECHA)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
Perchloric Acid	7601-90-3	Group 1 (Carcinogenic to Humans) - Monograph 100F [2012]; Monograph 54 [1992] As Acid mists, strong inorganic

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
No data found.		

U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
No data found.		

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11.3 Additional Toxicology Information:

Toxic if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage. May cause drowsiness or dizziness. May damage fertility or the unborn child. May cause damage to organs.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Methyl Alcohol	67-56-1	Earthworm	Acute	LC50 48 h Eisenia foetida >1 mg/cm ² [filter paper] (IUCLID)
Methyl Alcohol	67-56-1	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 28200 mg/L [flow-through] (EPA); LC50 96 h Pimephales promelas >100 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static] (EPA); LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] (EPA)

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.

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SECTION 14: Transportation Information

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

Sizes: 1 L

UN Number: UN2924

Proper Shipping Name: Flammable liquid, corrosive, n.o.s. (Methanol, Perchloric Acid)

Hazard Class: 3 (8)

Packing Group: II

Hazard Label(s):



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

Sizes: 1 L

UN Number: UN2924

Proper Shipping Name: Flammable liquid, corrosive, n.o.s. (Methanol, Perchloric Acid)

Hazard Class: 3 (8)

Packing Group: II

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L

UN Number: UN2924

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (methanol, perchloric acid)

Hazard Class: 3 (8)

Packing Group: II

Hazard Label(s):



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SECTION 15: Regulatory Information

15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
No data found.		

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

Chemical Name	CAS Number	RQ
No data found.		

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

Chemical Name	CAS Number	Regulatory Information
Methyl Alcohol	67-56-1	5000 lb final RQ; 2270 kg final RQ

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Methyl Alcohol	67-56-1	Emission Reporting	1.0 % de minimis concentration

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Methyl Alcohol	67-56-1	Present
Perchloric Acid	7601-90-3	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Methyl Alcohol	67-56-1	Environmental hazard
Perchloric Acid	7601-90-3	Present

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

Chemical Name	CAS Number	Regulatory Information
Methyl Alcohol	67-56-1	sn 1222
Perchloric Acid	7601-90-3	sn 2637

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15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Methyl Alcohol	67-56-1	developmental toxicity, 3/16/2012

15.09. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Chemical Name	CAS Number	List	Status
Methyl Alcohol	67-56-1	DSL	Present
Methyl Alcohol	67-56-1	NDSL	"Present" As Alcohols, C1-3 [68475-56-9]
Perchloric Acid	7601-90-3	DSL	Present
Water	7732-18-5	DSL	Present

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

Chemical Name	CAS Number	Status
Methyl Alcohol	67-56-1	Present (ACTIVE)
Perchloric Acid	7601-90-3	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)

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

Chemical Name	CAS Number	List	Number
Methyl Alcohol	67-56-1	EINECS	200-659-6
Perchloric Acid	7601-90-3	EINECS	231-512-4
Water	7732-18-5	EINECS	231-791-2

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Methyl Alcohol	67-56-1	Present [16735]
Perchloric Acid	7601-90-3	Present [13568]
Water	7732-18-5	Present [32224]

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15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Methyl Alcohol	67-56-1	Annex 1	Present [KE-23193]
Perchloric Acid	7601-90-3	Annex 1	Present [KE-28137]
Water	7732-18-5	Annex 1	Present [KE-35400]

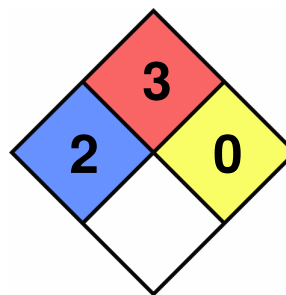
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Methyl Alcohol	67-56-1	(2)-201
Perchloric Acid	7601-90-3	(1)-221
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 2
Flammability: 3
Reactivity: 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
 2026-05-07

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.