



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Mixed Calibration Standard 2, ICP, EPA 200.7 version 4.4

Product Number RMCAL2

Other Identifying Product Numbers RMCAL2-100

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
Skin Corrosion / Irritation	Category 2	H315	P264,P280,P302+P352,P321,P332+P313,P362+P364
Serious Eye Damage / Eye Irritation	Category 1	H318	P280,P305+P351+P338,P310
Corrosive to Metals	Category 1	H290	P234,P390,P406

2.2. GHS Label Elements

Pictograms:



Signal Word: Danger

Hazard Statements:

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

Hazard Number	Hazard Statement
H290	May be corrosive to metals
H315	Causes skin irritation
H318	Causes serious eye damage

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
P234	Keep only in original packaging.
P264	Wash hands, arms, and face thoroughly after handling.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
P302+P352	IF ON SKIN: Wash with plenty of water.
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 or doctor.
P332+P313	If skin irritation occurs: Get medical advice or attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P390	Absorb spillage to prevent material damage.

2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

4.9 percent of this mixture consists of ingredient(s) of unknown acute oral and dermal toxicity.

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SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
water	Water	7732-18-5	95.04
nitric acid	Nitric Acid	7697-37-2	4.81
potassium nitrate	Potassium Nitrate; Nitric acid potassium salt (1:1)	7757-79-1	< 0.1
diazanium hexafluorotitanium(2-)	Ammonium Hexafluorotitanate; Ammonium titanium fluoride	16962-40-6	< 0.1
dilithium carbonate	Lithium Carbonate, 6Li ₂ CO ₃ ; Lithium carbonate	554-13-2	< 0.1
disodium carbonate	Sodium Carbonate; Carbonic acid, disodium salt; Soda ash	497-19-8	< 0.1
molybdenum	Molybdenum	7439-98-7	< 0.1
strontium carbonate	Strontium Carbonate; Carbonic acid, strontium salt (1:1)	1633-05-2	< 0.1
fluorane	Hydrofluoric Acid	7664-39-3	< 0.1

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, redness, pain, and tearing.

Ingestion: Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

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

Skin Contact: IF ON SKIN: Wash with plenty of water. May cause irritation, redness and pain. Contact will discolor skin yellow-brown depending on exposure which will wear off after a period of time.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes skin irritation Corrosive Liquid. Avoid contact with skin, eyes, and clothing. Avoid breathing vapor. If swallowed, do not induce vomiting. Dilute with water and call a physician. Wash areas of contact with plenty of water. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness and pain. Contact will discolor skin yellow-brown depending on exposure which will wear off after a period of time.

4.3. Immediate Medical Attention or Special Treatment Needed

Immediately call a poison center or doctor. 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.

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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 in a Fire

Not combustible, but substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Can react with metals to release flammable hydrogen gas.

5.3. Special Protective Equipment and Precautions 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.

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
Ammonium Hexafluorotitanate	16962-40-6	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Molybdenum	7439-98-7	"15 mg/m3 TWA (total dust)" As Molybdenum, insoluble compounds [RR-00037-3]
Hydrofluoric Acid	7664-39-3	3 ppm TWA (as F)
Nitric Acid	7697-37-2	2 ppm TWA; 5 mg/m3 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)

Chemical Name	CAS Number	Exposure Limit
Hydrofluoric Acid	7664-39-3	2 ppm Ceiling (as F)

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

Chemical Name	CAS Number	Exposure Limit
Nitric Acid	7697-37-2	4 ppm STEL

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

Chemical Name	CAS Number	Exposure Limit
Ammonium Hexafluorotitanate	16962-40-6	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Molybdenum	7439-98-7	10 mg/m3 TWA (inhalable particulate matter); 3 mg/m3 TWA (respirable particulate matter)
Hydrofluoric Acid	7664-39-3	0.5 ppm TWA (as F)
Nitric Acid	7697-37-2	2 ppm TWA

8.2. Engineering Controls

No specific controls are needed. Normal room ventilation is adequate.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Normal room ventilation is adequate.

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Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

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 100°C

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Flash Point: Not flammable

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: 1.03

Relative Vapor Density: Data not available.

Particle Characteristics: Data not available.

Partition Coefficient n-octanol/water, log 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

Keep only in original packaging. Strong bases, metallic powders.

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10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Strontium Carbonate	1633-05-2	Oral LD50 Rat > 14 g/kg (Source: WHO)
Sodium Carbonate	497-19-8	Oral LD50 Rat 4090 mg/kg (Source: NLM_HSDB)
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Oral LD50 Rat 525 mg/kg (Source: NLM_CIP)
Hydrofluoric Acid	7664-39-3	Oral LD50 Acute Toxicity Estimate 5 mg/kg (Source: Canada_WHMIS)
Potassium Nitrate	7757-79-1	Oral LD50 Rat >2000 mg/kg (no deaths occurred, Source: ECHA)

Acute Toxicity - Dermal Exposure:

No information found.

Chemical Name	CAS Number	Toxicity
Sodium Carbonate	497-19-8	Dermal LD50 Rabbit >2000 mg/kg (no deaths occurred, Source: ECHA)
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Dermal LD50 Rabbit >3000 mg/kg (Source: ECHA_API)
Molybdenum	7439-98-7	Dermal LD50 Rat >2000 mg/kg (Source: ECHA_API)
Potassium Nitrate	7757-79-1	Dermal LD50 Rat >5000 mg/kg (no deaths occurred, Source: ECHA)

Acute Toxicity - Inhalation Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Sodium Carbonate	497-19-8	Inhalation LC50 Rat 2300 mg/m ³ 2 h (aerosol, Source: ECHA_API)
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Inhalation LC50 Rat >2 mg/L 4 h (males; death occurred (2 out of 5 tested animals), dust, Source: ECHA)
Molybdenum	7439-98-7	Inhalation LC50 Rat >5.1 mg/L 4 h (death occurred (1 out of 10 tested animals), dust, Source: ECHA)
Hydrofluoric Acid	7664-39-3	Inhalation LC50 Rat 0.79 mg/L 1 h (vapor, Source: JAPAN_GHS)
Nitric Acid	7697-37-2	Inhalation LC50 Rat 3.22 mg/L 4 h (Source: WHMIS)
Potassium Nitrate	7757-79-1	Inhalation LC50 Rat >0.527 mg/L 4 h (no deaths occurred, dust, Source: ECHA_API)

11.2 Carcinogenicity:

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International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
Nitric Acid	7697-37-2	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.		

11.3 Additional Toxicology Information:

Causes skin irritation. Causes serious eye damage.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Sodium Carbonate	497-19-8	Freshwater Fish	Acute	LC50 96 h <i>Lepomis macrochirus</i> 300 mg/L [static] (EPA); LC50 96 h <i>Pimephales promelas</i> 310 - 1220 mg/L [static] (EPA)
Lithium Carbonate, 6Li2CO3	554-13-2	Freshwater Fish	Acute	LC50 96 h <i>Oncorhynchus mykiss</i> 30.3 mg/L [static] (ECHA)
Sodium Carbonate	497-19-8	Water Flea	Acute	EC50 48 h <i>Daphnia magna</i> 265 mg/L (IUCLID)
Hydrofluoric Acid	7664-39-3	Water Flea	Acute	EC50 48 h <i>Daphnia</i> species 270 mg/L (IUCLID)

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in soil

Data not available.

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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)

Sizes: 100 mL

UN Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, n.o.s. (Nitric Acid)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



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

Sizes: 100 mL

UN Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, n.o.s. (Nitric Acid)

Hazard Class: 8

Packing Group: III

Hazard Label(s):





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14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 100 mL

UN Number: UN3264

Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



SECTION 15: Regulatory Information

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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	TPQ
Hydrofluoric Acid	7664-39-3	100 lb TPQ	100 lb EPCRA RQ
Nitric Acid	7697-37-2	1000 lb TPQ	1000 lb EPCRA RQ

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

Chemical Name	CAS Number	Regulatory Information
Hydrofluoric Acid	7664-39-3	100 lb final RQ; 45.4 kg final RQ
Nitric Acid	7697-37-2	1000 lb final RQ; 454 kg final RQ

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

Chemical Name	CAS Number	List	Regulatory Information
Ammonium Hexafluorotitanate	16962-40-6	Emission Reporting	"1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)" As Aqueous ammonia from water dissociable ammonium salts and other sources [RR-47925-4]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Emission Reporting	1.0 % de minimis concentration
Hydrofluoric Acid	7664-39-3	Emission Reporting	1.0 % de minimis concentration
Nitric Acid	7697-37-2	Emission Reporting	1.0 % de minimis concentration
Potassium Nitrate	7757-79-1	Emission Reporting	"1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]

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15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Teratogen
Molybdenum	7439-98-7	Present
Hydrofluoric Acid	7664-39-3	Extraordinarily hazardous
Nitric Acid	7697-37-2	Extraordinarily hazardous
Potassium Nitrate	7757-79-1	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Molybdenum	7439-98-7	Present
Hydrofluoric Acid	7664-39-3	Environmental hazard
Nitric Acid	7697-37-2	Environmental hazard
Potassium Nitrate	7757-79-1	Present

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

Chemical Name	CAS Number	Regulatory Information
Ammonium Hexafluorotitanate	16962-40-6	"sn 0936" As Fluorides [RR-02792-9]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	sn 1124
Molybdenum	7439-98-7	sn 1309
Hydrofluoric Acid	7664-39-3	sn 3759
Nitric Acid	7697-37-2	sn 1356
Potassium Nitrate	7757-79-1	sn 1574

15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	developmental toxicity, 1/1/1991

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

Chemical Name	CAS Number	List	Status
Strontium Carbonate	1633-05-2	DSL	Present
Ammonium Hexafluorotitanate	16962-40-6	NDSL	Present
Sodium Carbonate	497-19-8	DSL	Present
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	DSL	Present
Molybdenum	7439-98-7	DSL	Present
Hydrofluoric Acid	7664-39-3	DSL	Present
Nitric Acid	7697-37-2	DSL	Present
Water	7732-18-5	DSL	Present
Potassium Nitrate	7757-79-1	DSL	Present

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

Chemical Name	CAS Number	Status
Strontium Carbonate	1633-05-2	Present (ACTIVE)
Ammonium Hexafluorotitanate	16962-40-6	Present (ACTIVE)
Sodium Carbonate	497-19-8	Present (ACTIVE)
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Present (ACTIVE)
Molybdenum	7439-98-7	Present (ACTIVE)
Hydrofluoric Acid	7664-39-3	Present (ACTIVE)
Nitric Acid	7697-37-2	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)
Potassium Nitrate	7757-79-1	Present (ACTIVE)

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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
Strontium Carbonate	1633-05-2	EINECS	216-643-7
Ammonium Hexafluorotitanate	16962-40-6	EINECS	241-036-9
Sodium Carbonate	497-19-8	EINECS	207-838-8
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	EINECS	209-062-5
Molybdenum	7439-98-7	EINECS	231-107-2
Hydrofluoric Acid	7664-39-3	EINECS	231-634-8
Nitric Acid	7697-37-2	EINECS	231-714-2
Water	7732-18-5	EINECS	231-791-2
Potassium Nitrate	7757-79-1	EINECS	231-818-8

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

Chemical Name	CAS Number	Status
Strontium Carbonate	1633-05-2	Present [34148]
Ammonium Hexafluorotitanate	16962-40-6	Present [13288]
Sodium Carbonate	497-19-8	Present [34127]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Present [34121]
Molybdenum	7439-98-7	Present [25031]
Hydrofluoric Acid	7664-39-3	Present [27221]
Nitric Acid	7697-37-2	Present [35578]
Water	7732-18-5	Present [32224]
Potassium Nitrate	7757-79-1	Present [35600]

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

Chemical Name	CAS Number	List	Status
Strontium Carbonate	1633-05-2	Annex 1	Present [KE-32213]
Ammonium Hexafluorotitanate	16962-40-6	Annex 1	Present [KE-01676]
Sodium Carbonate	497-19-8	Annex 1	Present [KE-31380]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Annex 1	Present [KE-22550]
Molybdenum	7439-98-7	Annex 1	Present [KE-25427]
Hydrofluoric Acid	7664-39-3	Annex 1	Present [KE-20198]
Nitric Acid	7697-37-2	Annex 1	Present [KE-25911]
Water	7732-18-5	Annex 1	Present [KE-35400]
Potassium Nitrate	7757-79-1	Annex 1	Present [KE-29163]

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

Chemical Name	CAS Number	MITI No.
Strontium Carbonate	1633-05-2	(1)-171
Ammonium Hexafluorotitanate	16962-40-6	(1)-1118
Sodium Carbonate	497-19-8	(1)-164
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	(1)-154
Molybdenum	7439-98-7	- (exempt)
Hydrofluoric Acid	7664-39-3	(1)-306
Nitric Acid	7697-37-2	(1)-394
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)
Potassium Nitrate	7757-79-1	(1)-449

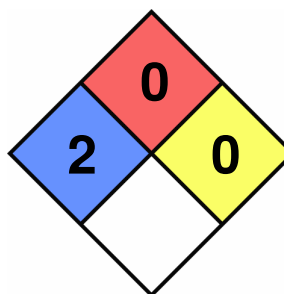
SECTION 16: Other Information

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16.1 National Fire Protection Associate (NFPA) Rating

Health: 2
Flammability: 0
Reactivity 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
2026-05-05

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.