



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Ammonia-Cyanide TS

Product Number R0623300

Other Identifying Product Numbers R0623300-120B, R0623300-500C

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 4	H302	P264,P270,P301+P312,P330,P501
Acute Toxicity - Dermal	Category 4	H312	P280,P302+P352,P312,P321,P362+P364,P501
Acute Toxicity - Inhalation (Dusts and Mists)	Category 4	H332	P261,P271,P304+P340,P312
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
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 2	H401	P273,P501
Hazardous to the Aquatic Environment, Long-term (Chronic)	Chronic 3	H412	P273,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.

Hazard Number	Hazard Statement
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H401	Toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

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
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.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
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.
P310	Immediately call a poison center or doctor.
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.

Storage

Precautionary Number	Precautionary Statement
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.

2.4. Ingredients of Unknown Acute Toxicity

3.9 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	94.10
ammonium hydroxide	Ammonium Hydroxide; Aqueous ammonia	1336-21-6	3.86
potassium cyanide	Potassium Cyanide; Hydrocyanic acid, potassium salt	151-50-8	2.04

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 severe irritation with possible permanent damage.

Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. 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. Will pass through unbroken skin and enter the bloodstream. Large exposures can be fatal.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage DANGER! Corrosive and Toxic! May be fatal if swallowed. Hazardous fumes and liquid. Do not get in eyes, on skin, or on clothing. Do not pipet by mouth. If ingested, give large quantity of water and call a physician immediately. Wash areas of contact with plenty of water for at least 15 minutes. For eyes, get medical attention. EYE CONTACT: May cause severe irritation with possible permanent damage. SKIN CONTACT: Will pass through unbroken skin and enter the bloodstream. Large exposures can be fatal.

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 (Not by mouth). Flush with plenty of 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. Available Cyanide antidotes are Hydroxocobalamin, Sodium Nitrite and Sodium Thiosulfate administered via intravenous (IV) infusion by qualified healthcare professionals.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire.

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

Flammable vapors may accumulate in confined spaces.

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5.3. Special Protective Equipment and Precautions for Firefighters

Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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 (paper towels, etc.) and dispose of in accordance with local regulations. Ventilate, if necessary, site of spillage well to evaporate remaining liquid and dispel vapor.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

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 below 25°C. 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
Ammonium Hydroxide	1336-21-6	"50 ppm TWA; 35 mg/m3 TWA" As Ammonia [7664-41-7]
Potassium Cyanide	151-50-8	"5 mg/m3 TWA (as CN)" As Cyanides [RR-00812-8]

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
Potassium Cyanide	151-50-8	5 mg/m3 Ceiling (as CN, listed under Hydrogen cyanide and cyanide salts)

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

Chemical Name	CAS Number	Exposure Limit
Ammonium Hydroxide	1336-21-6	"35 ppm STEL" As Ammonia [7664-41-7]

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

Chemical Name	CAS Number	Exposure Limit
Ammonium Hydroxide	1336-21-6	"25 ppm TWA" As Ammonia [7664-41-7]

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.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: If the TLV is exceeded, a half-mask organic vapor respirator may be worn for up to 10 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full facepiece organic vapor respirator may be worn for up to 50 times the exposure limit, or the maximum use concentration specified by the respirator supplier, whichever is lowest.

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:	Approximately 0°C
Boiling Point/Range:	Approximately 36°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:	Alkaline
Kinematic Viscosity:	Data not available.
Solubility:	miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	0.98
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

Strong oxidizers, acids, Calcium Hypochlorite bleaches, gold, mercury, silver, halogens, acid salts, Peroxides. Contact with acids generates toxic Cyanide 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): 367 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Potassium Cyanide	151-50-8	Oral LD50 Rat 7.49 mg/kg (Source: JAPAN_GHS)

Acute Toxicity - Dermal Exposure:

Dermal acute toxicity estimate (ATE): 1094 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Potassium Cyanide	151-50-8	Dermal LD50 Rabbit 22.3 mg/kg (Source: JAPAN_GHS)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, vapor): 77.7202 mg/L, 4 h(calculated); Inhalation acute toxicity estimate (ATE, dust or mist): 1.9608 mg/L, 4

Chemical Name	CAS Number	Toxicity
Ammonium Hydroxide	1336-21-6	Inhalation LC50 Acute Toxicity Estimate 3 mg/L 4 h (Source: ECHA)
Potassium Cyanide	151-50-8	Inhalation LC50 Rat 0.16 mg/L 1 h (Source: NLM_CIP)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
No data found.		

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:

Harmful if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Ammonium Hydroxide	1336-21-6	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 8.2 mg/L
Potassium Cyanide	151-50-8	Freshwater Fish	Acute	LC50 96 h Oncorhynchus mykiss 0.04 - 0.046 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 0.044 - 0.084 mg/L [static] (EPA); LC50 96 h Lepomis macrochirus 0.01 - 0.08 mg/L [static] (EPA); LC50 96 h Lepomis macrochirus 0.45 mg/L (EPA); LC50 96 h Lepomis macrochirus 0.45 - 0.57 mg/L [flow-through] (IUCRID); LC50 96 h Pimephales promelas 0.31 - 0.37 mg/L [static] (EPA); LC50 96 h Poecilia reticulata 0.0588 mg/L [flow-through] (EPA)
Ammonium Hydroxide	1336-21-6	Water Flea	Acute	EC50 48 h water flea 0.66 mg/L; EC50 48 h Daphnia pulex 0.66 mg/L

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: 120 mL, 500 mL

UN Number: UN2922

Proper Shipping Name: Corrosive Liquid, Toxic, n.o.s. (Ammonium Hydroxide, Potassium Cyanide)

Hazard Class: 8 (6.1)

Packing Group: III

Hazard Label(s):



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

Sizes: 120 mL, 500 mL

UN Number: UN2922

Proper Shipping Name: Corrosive Liquid, Toxic, n.o.s. (Ammonium Hydroxide, Potassium Cyanide)

Hazard Class: 8 (6.1)

Packing Group: III

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 120 mL, 500 mL

UN Number: UN2922

Proper Shipping Name: CORROSIVE LIQUID, TOXIC, N.O.S. (ammonium hydroxide, potassium cyanide)

Hazard Class: 8 (6.1)

Packing Group: III

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	TPQ
Ammonium Hydroxide	1336-21-6	"500 lb TPQ" As Ammonia [7664-41-7]	"100 lb EPCRA RQ" As Ammonia [7664-41-7]
Potassium Cyanide	151-50-8	100 lb TPQ (this material is a reactive solid, the TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)	10 lb EPCRA RQ

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

Chemical Name	CAS Number	Regulatory Information
Ammonium Hydroxide	1336-21-6	1000 lb final RQ; 454 kg final RQ
Potassium Cyanide	151-50-8	10 lb final RQ; 4.54 kg final RQ

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

Chemical Name	CAS Number	List	Regulatory Information
Ammonium Hydroxide	1336-21-6	Emission Reporting	"1.0 % de minimis concentration (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing)" As Ammonia [7664-41-7]; "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]
Potassium Cyanide	151-50-8	Emission Reporting	"1.0 % de minimis concentration (X+CN ⁻ where X=H ⁺ or any other group where a formal dissociation can be made, for example, KCN or Ca(CN) ₂ , listed under Chemical Category N106)" As Cyanide compounds [RR-00812-8]

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Ammonium Hydroxide	1336-21-6	Present
Potassium Cyanide	151-50-8	Extraordinarily hazardous

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Ammonium Hydroxide	1336-21-6	Environmental hazard
Potassium Cyanide	151-50-8	Environmental hazard

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

Chemical Name	CAS Number	Regulatory Information
Ammonium Hydroxide	1336-21-6	sn 0103
Potassium Cyanide	151-50-8	sn 1562

15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Potassium Cyanide	151-50-8	"male reproductive toxicity, 7/5/13" As Hydrogen cyanide salts [RR-04817-9]

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

Chemical Name	CAS Number	List	Status
Ammonium Hydroxide	1336-21-6	DSL	Present
Potassium Cyanide	151-50-8	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
Ammonium Hydroxide	1336-21-6	Present (ACTIVE)
Potassium Cyanide	151-50-8	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
Ammonium Hydroxide	1336-21-6	EINECS	215-647-6
Potassium Cyanide	151-50-8	EINECS	205-792-3
Water	7732-18-5	EINECS	231-791-2

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

Chemical Name	CAS Number	Status
Ammonium Hydroxide	1336-21-6	Present [27662]
Potassium Cyanide	151-50-8	Present [27730]
Water	7732-18-5	Present [32224]

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

Chemical Name	CAS Number	List	Status
Ammonium Hydroxide	1336-21-6	Annex 1	Present [KE-01688]
Potassium Cyanide	151-50-8	Annex 1	Present [KE-29092]
Potassium Cyanide	151-50-8	Annex 3	"Present (97-1-90)" As Inorganic cyanide compounds [RR-00573-2]
Water	7732-18-5	Annex 1	Present [KE-35400]

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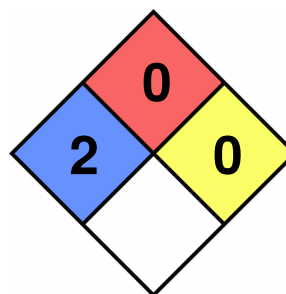
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Ammonium Hydroxide	1336-21-6	(1)-314
Potassium Cyanide	151-50-8	(1)-1086
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: 0
Reactivity: 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
 2026-05-22

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.