



# SAFETY DATA SHEET

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Preparation Date: 01/01/2019

Revision Date: N/A

Revision Number: 1

## SECTION 1: Identification

### 1.1. Product Identifier

Trade Name or Designation: Ammoniacal Potassium Fericyanide TS

Product Number: TS14031

### 1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

### 1.3. Details of the Supplier of the Safety Data Sheet

**Dawn Scientific Inc**

121 Liberty Street, Metuchen, NJ, 08840

Tel : 732-902-6300 | Fax : 973-802-1005

sales@dawnscientific.com | www.dawnscientific.com

### 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:
Skin Corrosion / Irritation	Category 1A	H314	P260, P264, P280, P301+P330+P331, P303+P361+P353, P363, P304+P340, P310, P321, P305+P351+P338, P405, P501
Eye Damage / Irritation	Category 1	H318	P280, P305+P351+P338, P310
Specific Target Organs/Systemic Toxicity Following Single Exposure	Category 2	H371	P260, P264, P270, P308+P311, P405, P501
Specific Target Organs/Systemic Toxicity Following Repeated Exposure	Category 2	H373	P260, P314, P501
Corrosive to Metals	Category 1	H290	P234, P390, P406
Hazardous to the Aquatic Environment (Acute)	Category 2	H401	P273, P501
Hazardous to the Aquatic Environment (Chronic)	Category 2	H411	P273, P391, P501

### 2.2. GHS Label Elements

Pictograms:



Signal Word:

**Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P234	Keep only in original container.
P260	Do not breathe fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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 physician.
P310	Immediately call a POISON CENTER or physician.
P314	Get medical attention if you feel unwell.
P321	Specific treatment (Wash areas of contact with water).
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

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 <sub>2</sub> O	18.01 g/mol	7732-18-5	91.66
Ammonium Hydroxide	NH <sub>4</sub> OH	35.04 g/mol	1336-21-6	6.33
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	329.24 g/mol	13746-66-2	2.01

## 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. May cause severe irritation with possible permanent damage.
- 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. May cause serious damage to the skin. Effects may include redness, pain, skin burns.
- Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

### 4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. This item is corrosive. May be fatal if swallowed or inhaled. Mist and vapor cause burns to every area of contact. Use with adequate ventilation. Avoid contact with skin, eyes or clothing. Wash areas of contact with plenty of water immediately. For eyes, get medical attention. EYE CONTACT: May cause severe irritation with possible permanent damage. SKIN CONTACT: May cause serious damage to the skin. Effects may include redness, pain, skin burns.

### 4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). 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. 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

Flammable vapors may accumulate in confined spaces.

### 5.3. Special Protective Equipment 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

Ventilate area of leak or spill. Cover spill with a 1:1:1 mixture by weight of Sodium Carbonate or Calcium Carbonate, clay and sand. Scoop mixture into a plastic container and, in the fume hood, add to a pail of cold water. Neutralize this mixture with 5% Hydrochloric Acid, let stand overnight, then pour the liquid into the drain while flushing with water. Dispose of any solid with normal refuse. Wash the area of the spill with plenty of water.

## SECTION 7: Handling and Storage

### 7.1. Precautions for Safe Handling and Storage Conditions

Store in corrosive resistant container with a resistant inner liner. 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 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Potassium Ferricyanide (13746-66-2)	TLV-TWA	USA	1 mg/m <sup>3</sup> TWA (as Fe)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Potassium Ferricyanide (13746-66-2)	TWA	USA	5 mg/m <sup>3</sup> TWA (as CN)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

### 8.2. Exposure Controls

- Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.
- 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: Wear protective gloves and eye protection. Chemical resistant gloves.
- Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

### 8.3. Personal Protective Equipment

Wear protective gloves and eye 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. Chemical resistant gloves. Safety glasses or goggles.

## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

- Appearance: Yellow liquid
- Physical State: Liquid
- Odor: Data not available.
- Odor Threshold: Data not available.
- pH: Alkaline
- Melting/Freezing Point: Data not available.
- Initial Boiling Point/Range: Approximately 36°C - Approximately 36°C
- 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:	1.00
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

Keep only in original container. Strong oxidizers, acids, Calcium Hypochlorite bleaches, gold, mercury, silver, halogens.

### 10.4. Hazardous Decomposition Products

Will not occur.

## 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:

LD50, Oral, Rat: 350 mg/kg (Ammonium Hydroxide), gastrointestinal, liver, kidney, ureter, bladder changes. LDLo, Oral, Human: 43 mg/kg;

LCLo, Inhalation, Human: 5000 ppm, details of toxic effects not reported other than lethal dose value. LD50, Oral, Rat: 2970 mg/kg

Potassium Ferricyanide), details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:

Causes severe skin burns and eye damage. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Serious Eye Damage and Irritation:

Causes serious eye damage. 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. Immediately call a POISON CENTER or physician.

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:

May cause damage to organs. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed or concerned: Call a POISON CENTER or physician. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Repeated Exposure:

May cause damage to organs through prolonged or repeated exposure. Do not breathe fumes, mist, vapors, or spray. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

## SECTION 12: Ecological Information

### 12.1. Ecotoxicity

Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

Toxic to aquatic life with long lasting effects. Avoid release to the environment. Collect spillage. Dispose of contents in accordance with local, state, federal and international regulations.

### 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)

Sizes: 500 mL

UN Number: UN3266

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, n.o.s. (Ammonium Hydroxide)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



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

Sizes: 500 mL

UN Number: UN3266

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, n.o.s. (Ammonium Hydroxide)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



### 14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 500 mL

UN Number: UN3266

Proper Shipping Name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ammonium hydroxide)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



## 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

Not listed.

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

Ammonium Hydroxide (CAS # 1336-21-6): 1000 lb final RQ; 454 kg final RQ

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

Ammonium Hydroxide (CAS # 1336-21-6): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

Potassium Ferricyanide (CAS # 13746-66-2): 1.0 % de minimis concentration (X+CN<sup>-</sup> where X = H<sup>+</sup> or any other group where a formal dissociation can be made. For example KCN or Ca(CN)<sub>2</sub>. Chemical Category N106)

### 15.5. Massachusetts Right-to-Know Substance List

Ammonium Hydroxide (CAS # 1336-21-6): Present

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Ammonium Hydroxide (CAS # 1336-21-6): Environmental hazard

Ammonium Hydroxide (CAS # 1336-21-6): Present

Potassium Ferricyanide (CAS # 13746-66-2): Environmental hazard

Potassium Ferricyanide (CAS # 13746-66-2): Present

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

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

Ammonium Hydroxide (CAS # 1336-21-6): corrosive

Ammonium Hydroxide (CAS # 1336-21-6): sn 0103

Potassium Ferricyanide (CAS # 13746-66-2): sn 2308

Potassium Ferricyanide (CAS # 13746-66-2): SN 2308 500 lb TPQ (Category Code N106)

### 15.8. California Proposition 65

Not listed.

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

Ammonium Hydroxide (CAS # 1336-21-6): Present (DSL)

Potassium Ferricyanide (CAS # 13746-66-2): Present (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.**

Ammonium Hydroxide (CAS # 1336-21-6): Present

Potassium Ferricyanide (CAS # 13746-66-2): Present

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

### 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European

List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Ammonium Hydroxide (CAS # 1336-21-6): 215-647-6

Potassium Ferricyanide (CAS # 13746-66-2): 237-323-3

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

Water (CAS # 7732-18-5): 232-148-9



## SECTION 16: Other Information

### 16.1. Full Text of Hazard Statements and Precautionary Statements

May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Keep only in original container. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves and eye protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Collect spillage.

Store locked up. Store in corrosive resistant container with a resistant inner liner.

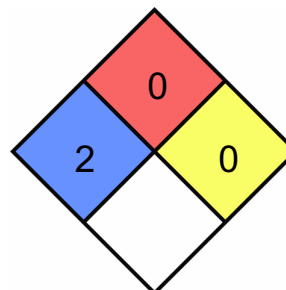
Dispose of contents in accordance with local, state, federal and international regulations.

### 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.

### 16.3. National Fire Protection Association (NFPA) Rating

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



### 16.4. Document Revision

Last Revision Date: 2021-10-06

## 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 Dawn Sciemic Inc assumes no legal responsibility or liability whatsoever resulting from its use.