

Classified according to WHMIS 2015

#### **SECTION 1: Identification**

#### **1.1. Product Identifier**

Trade Name or Designation:

Interference Ck Std, 15 element

Product Number: RINFCK15 Other Identifying Product Numbers: RINFCK15-100N

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) CHEMTREC (International) 800-424-9300 1+ 703-527-3887

## **Safety Data Sheet**

#### **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     |   |
|--|------------|------------|---|
| Hazard Class                                   | Category   | Statements | Precautionary Statements:   |
| Acute Toxicity - Inhalation                    | Category 1 | H330       | P260, P271, P285, P304+P340, P310, P320,<br>P403+P233, P405, P501   |
| Skin Corrosion / Irritation                    | Category 1 | H314       | P260, P264, P280, P301+P330+P331,<br>P303+P361+P353, P363, P304+P340, P310,<br>P321, P305+P351+P338, P405, P501 |
| Eye Damage / Irritation                        | Category 1 | H318       | P280, P305+P351+P338, P310  |
| Reproductive Toxicity                          | Category 1 | H360       | P201, P202, P280, P308+P313, P405, 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.                       |
| H330          | Fatal if inhaled.                                |
| H360          | May damage fertility or the unborn child.        |
| H401          | Toxic to aquatic life.                           |
| H411          | Toxic to aquatic life with long lasting effects. |

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## **Safety Data Sheet**

#### **Precautionary Statements:**

| Precautionary Number | Precautionary Statement  |
|----------------------|--|
| P201                 | Obtain special instructions before use.  |
| P202                 | Do not handle until all safety precautions have been read and understood.                          |
| P234                 | Keep only in original container.   |
| P260                 | Do not breathe fumes, mist, vapors, or spray.  |
| P264                 | Wash arms, hands and face thoroughly after handling.   |
| P271                 | Use only outdoors or in a well-ventilated area.  |
| P273                 | Avoid release to the environment.  |
| P280                 | Wear protective gloves and eye protection.   |
| P285                 | In case of inadequate ventilation wear respiratory 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+P313            | IF exposed or concerned: Get medical attention.  |
| P310                 | Immediately call a POISON CENTER or physician.   |
| P320                 | Specific treatment is urgent (Wash areas of contact with water immediately).                       |
| P321                 | Specific treatment (Wash areas of contact with water immediately).                                 |
| P363                 | Wash contaminated clothing before reuse.   |
| P390                 | Absorb spillage to prevent material damage.  |
| P391                 | Collect spillage.  |
| P403+P233            | Store in a well-ventilated place. Keep container tightly closed.                                   |
| 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.

## Safety Data Sheet

#### **SECTION 3: Composition / Information on Ingredients**

#### 3.1. Components of Substance or Mixture

| Chemical Name                 | Formula                  | Molecular Weight | CAS Number | Weight% |
|-------------------------------|--------------------------|------------------|------------|---------|
| Water                         | H₂O                      | 18.01 g/mol      | 7732-18-5  | 72.09   |
| Aluminum Nitrate Nonahydrate  | $AI(NO_3)_3 \cdot 9H_2O$ | 375.13 g/mol     | 7784-27-2  | 13.24   |
| Nitric Acid                   | HNO <sub>3</sub>         | 63.01 g/mol      | 7697-37-2  | 11.02   |
| Magnesium                     | Mg                       | 24.30 g/mol      | 7439-95-4  | 0.95    |
| Lead                          | Pb                       | 207.2 g/mol      | 7439-92-1  | 0.95    |
| Iron                          | Fe                       | 55.84 g/mol      | 7439-89-6  | 0.95    |
| Ammonium Dihydrogen Phosphate | $NH_4H_2PO_4$            | 97.99 g/mol      | 7722-76-1  | 0.35    |
| Calcium Carbonate             | CaCO <sub>3</sub>        | 100.09 g/mol     | 471-34-1   | 0.24    |
| Manganese                     | Mn                       | 54.93 g/mol      | 7439-96-5  | 0.10    |
| Ammonium Dichromate           | $(NH_4)_2Cr_2O_7$        | 252.06 g/mol     | 7789-09-5  | < 0.1   |
| Ammonium Metavanadate         | $NH_4VO_3$               | 116.97 g/mol     | 7803-55-6  | < 0.1   |
| Zinc                          | Zn                       | 65.40 g/mol      | 7440-66-6  | < 0.1   |
| Copper                        | Cu                       | 63.54 g/mol      | 7440-50-8  | < 0.1   |
| Cobalt                        | Со                       | 58.93 g/mol      | 7440-48-4  | < 0.1   |
| Cadmium                       | Cd                       | 112.41 g/mol     | 7440-43-9  | < 0.1   |
| Arsenic                       | As                       | 74.92 g/mol      | 7440-38-2  | < 0.1   |
| Nickel                        | Ni                       | 58.69 g/mol      | 7440-02-0  | < 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. May cause irritation, redness, pain, and tearing.
  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 irritation, redness and pain. Contact will discolor skin yellow-brown depending on exposure which will wear off after a period of time.
  - **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. Fatal if inhaled. May damage fertility or the unborn child. Contains low levels of known and suspected carcinogens. Corrosive Liquid. May be fatal if swallowed. 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. Potential symptoms of overexposure are irritation of the eyes, mucous membranes and skin, dental erosion, bronchitis, pneumonitis, delayed pulmonary edema. 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. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment is urgent (Wash areas of contact with water immediately). Specific treatment (Wash areas of contact with water immediately). 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. Immediately flush with plenty of water for at least 15 minutes. Remove any contaminated clothing. Wash with soap and water, then flush again with water. 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 water or water spray.

#### 5.2. Specific Hazards Arising from the Substance or Mixture

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 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. In case of inadequate ventilation wear respiratory protection.

#### 6.2. Cleanup and Containment Methods and Materials

Do not flush to sewer. Absorb with suitable material. Containerize for disposal with a hazardous waste disposal facility. Dispose of in accordance with local regulations.

#### **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.

#### Product Number: RINFCK15

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#### **SECTION 8: Exposure Controls / Personal Protection**

#### **8.1 Control Parameters**

| Chemical Name         | Limit Type  | Country | Exposure Limit   | Information Source   |
|-----------------------|-------------|---------|--|--|
| Lead (7439-92-1)      | PEL         | USA     | 30 μg/m <sup>3</sup> Action Level (See<br>29 CFR 1910.1025); 50<br>μg/m <sup>3</sup> TWA   | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Lead (7439-92-1)      | TLV-TWA     | USA     | 0.05 mg/m <sup>3</sup> TWA   | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Lead (7439-92-1)      | TWA         | USA     | 50 μg/m³ TWA   | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)             |
| Manganese (7439-96-5) | PEL-Ceiling | USA     | "5 mg/m <sup>3</sup> Ceiling (as Mn)"<br>As Manganese compounds<br>[RR-00602-0]  | U.S OSHA - Final PELs - Ceiling<br>Limits                            |
| Manganese (7439-96-5) | PEL-Ceiling | USA     | "5 mg/m <sup>3</sup> Ceiling (as Mn)"<br>As Manganese compounds<br>[RR-00602-0]  | U.S OSHA - Final PELs - Ceiling<br>Limits                            |
| Manganese (7439-96-5) | PEL-Ceiling | USA     | "5 mg/m <sup>3</sup> Ceiling (as Mn)"<br>As Manganese compounds<br>[RR-00602-0]  | U.S OSHA - Final PELs - Ceiling<br>Limits                            |
| Manganese (7439-96-5) | PEL-Ceiling | USA     | "5 mg/m <sup>3</sup> Ceiling (as Mn)"<br>As Manganese compounds<br>[RR-00602-0]  | U.S OSHA - Final PELs - Ceiling<br>Limits                            |
| Manganese (7439-96-5) | PEL-Ceiling | USA     | "5 mg/m <sup>3</sup> Ceiling (as Mn)"<br>As Manganese compounds<br>[RR-00602-0]  | U.S OSHA - Final PELs - Ceiling<br>Limits                            |
| Manganese (7439-96-5) | TLV-TWA     | USA     | 0.02 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter); 0.1 mg/m <sup>3</sup> TWA<br>(inhalable particulate<br>matter) | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Manganese (7439-96-5) | PEL-Ceiling | USA     | 5 mg/m <sup>3</sup> Ceiling (fume)   | U.S OSHA - Final PELs - Ceiling<br>Limits                            |
| Manganese (7439-96-5) | PEL-Ceiling | USA     | "5 mg/m <sup>3</sup> Ceiling (as Mn)"<br>As Manganese compounds<br>[RR-00602-0]  | U.S OSHA - Final PELs - Ceiling<br>Limits                            |

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| Manganese (7439-96-5) | TLV-TWA | USA  | 0.02 mg/m <sup>3</sup> TWA  | ACGIH - Threshold Limit Values - Time |
|-----------------------|---------|------|---|---------------------------------------|
|                       |         |      | (respirable particulate   | Weighted Averages (TLV-TWA)           |
|                       |         |      | matter, as Mn); 0.1 mg/m <sup>3</sup><br>TWA (inhalable particulate |                                       |
|                       |         |      | matter, as Mn)  |                                       |
| Nickel (7440-02-0)    | TLV-TWA | USA  | 1.5 mg/m <sup>3</sup> TWA (inhalable                                | ACGIH - Threshold Limit Values - Time |
|                       |         | UUA  | particulate matter)   | Weighted Averages (TLV-TWA)           |
| Nickel (7440-02-0)    | TWA     | USA  | 1 mg/m <sup>3</sup> TWA   | U.S OSHA - Final PELs - Time          |
|                       |         | •••• | ····· <b>g</b> ,  | Weighted Averages (TWAs)              |
| Arsenic (7440-38-2)   | TWA     | USA  | "10 µg/m <sup>3</sup> TWA (as As)" As                               | U.S OSHA - Final PELs - Time          |
|                       |         |      | Arsenic, inorganic  | Weighted Averages (TWAs)              |
|                       |         |      | compounds [RR-00065-7]  |                                       |
| Arsenic (7440-38-2)   | TLV-TWA | USA  | "0.01 mg/m <sup>3</sup> TWA (as As)"                                | ACGIH - Threshold Limit Values - Time |
|                       |         |      | As Arsenic inorganic  | Weighted Averages (TLV-TWA)           |
|                       |         |      | compounds [RR-00065-7]  |                                       |
| Arsenic (7440-38-2)   | PEL     | USA  | "10 µg/m³ TWA (See 29   | U.S OSHA - Specifically Regulated     |
|                       |         |      | CFR 1910.1018; except   | Chemicals with PELs                   |
|                       |         |      | Arsine, as As); 5 µg/m³   |                                       |
|                       |         |      | Action Level (as As)" As  |                                       |
|                       |         |      | Inorganic arsenic   |                                       |
|                       |         |      | compounds [RR-00065-7]  |                                       |
| Arsenic (7440-38-2)   | PEL     | USA  | "10 µg/m³ TWA (See 29   | U.S OSHA - Specifically Regulated     |
|                       |         |      | CFR 1910.1018; except   | Chemicals with PELs                   |
|                       |         |      | Arsine, as As); 5 µg/m³   |                                       |
|                       |         |      | Action Level (as As)" As  |                                       |
|                       |         |      | Inorganic arsenic   |                                       |
|                       |         |      | compounds [RR-00065-7]  |                                       |
| Arsenic (7440-38-2)   | TWA     | USA  | "10 µg/m³ TWA (as As)" As   | U.S OSHA - Final PELs - Time          |
|                       |         |      | Arsenic, inorganic  | Weighted Averages (TWAs)              |
|                       |         |      | compounds [RR-00065-7]  |                                       |
| Arsenic (7440-38-2)   | TLV-TWA | USA  | "0.01 mg/m³ TWA (as As)"  | ACGIH - Threshold Limit Values - Time |
|                       |         |      | As Arsenic inorganic  | Weighted Averages (TLV-TWA)           |
|                       |         |      | compounds [RR-00065-7]  |                                       |
| Arsenic (7440-38-2)   | TWA     | USA  | "10 µg/m³ TWA (as As)" As   | U.S OSHA - Final PELs - Time          |
|                       |         |      | Arsenic, inorganic  | Weighted Averages (TWAs)              |
|                       |         |      | compounds [RR-00065-7]  |                                       |
| Arsenic (7440-38-2)   | TLV-TWA | USA  | "0.01 mg/m <sup>3</sup> TWA (as As)"                                | ACGIH - Threshold Limit Values - Time |
|                       |         |      | As Arsenic inorganic  | Weighted Averages (TLV-TWA)           |
|                       |         |      | compounds [RR-00065-7]  |                                       |

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| Arsenic (7440-38-2) | PEL     | USA | "10 µg/m³ TWA (See 29                | U.S OSHA - Specifically Regulated     |
|---------------------|---------|-----|--------------------------------------|---------------------------------------|
|                     |         |     | CFR 1910.1018; except                | Chemicals with PELs                   |
|                     |         |     | Arsine, as As); 5 µg/m <sup>3</sup>  |                                       |
|                     |         |     | Action Level (as As)" As             |                                       |
|                     |         |     | Inorganic arsenic                    |                                       |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | PEL     | USA | "10 µg/m³ TWA (See 29                | U.S OSHA - Specifically Regulated     |
|                     |         |     | CFR 1910.1018; except                | Chemicals with PELs                   |
|                     |         |     | Arsine, as As); 5 µg/m <sup>3</sup>  |                                       |
|                     |         |     | Action Level (as As)" As             |                                       |
|                     |         |     | Inorganic arsenic                    |                                       |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as As)" | ACGIH - Threshold Limit Values - Time |
|                     |         |     | As Arsenic inorganic                 | Weighted Averages (TLV-TWA)           |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | TWA     | USA | "10 µg/m³ TWA (as As)" As            | U.S OSHA - Final PELs - Time          |
|                     |         |     | Arsenic, inorganic                   | Weighted Averages (TWAs)              |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | PEL     | USA | "10 µg/m³ TWA (See 29                | U.S OSHA - Specifically Regulated     |
|                     |         |     | CFR 1910.1018; except                | Chemicals with PELs                   |
|                     |         |     | Arsine, as As); 5 µg/m <sup>3</sup>  |                                       |
|                     |         |     | Action Level (as As)" As             |                                       |
|                     |         |     | Inorganic arsenic                    |                                       |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | TLV-TWA | USA | "0.01 mg/m³ TWA (as As)"             | ACGIH - Threshold Limit Values - Time |
|                     |         |     | As Arsenic inorganic                 | Weighted Averages (TLV-TWA)           |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | TWA     | USA | "10 µg/m³ TWA (as As)" As            | U.S OSHA - Final PELs - Time          |
|                     |         |     | Arsenic, inorganic                   | Weighted Averages (TWAs)              |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | TLV-TWA | USA | "0.01 mg/m3 TWA (as As)"             | ACGIH - Threshold Limit Values - Time |
|                     |         |     | As Arsenic inorganic                 | Weighted Averages (TLV-TWA)           |
|                     |         |     | compounds [RR-00065-7]               |                                       |
| Arsenic (7440-38-2) | TWA     | USA | "10 µg/m3 TWA (as As)" As            | U.S OSHA - Final PELs - Time          |
|                     |         |     | Arsenic, inorganic                   | Weighted Averages (TWAs)              |
|                     |         |     | compounds [RR-00065-7]               |                                       |

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| Arsenic (7440-38-2) | PEL     | USA | "10 μg/m <sup>3</sup> TWA (See 29<br>CFR 1910.1018; except<br>Arsine, as As); 5 μg/m <sup>3</sup><br>Action Level (as As)" As<br>Inorganic arsenic<br>compounds [RR-00065-7] | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
|---------------------|---------|-----|--|--|
| Arsenic (7440-38-2) | TWA     | USA | "10 µg/m³ TWA (as As)" As<br>Arsenic, inorganic<br>compounds [RR-00065-7]  | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)             |
| Arsenic (7440-38-2) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as As)"<br>As Arsenic inorganic<br>compounds [RR-00065-7]   | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Arsenic (7440-38-2) | PEL     | USA | "10 μg/m <sup>3</sup> TWA (See 29<br>CFR 1910.1018; except<br>Arsine, as As); 5 μg/m <sup>3</sup><br>Action Level (as As)" As<br>Inorganic arsenic<br>compounds [RR-00065-7] | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Arsenic (7440-38-2) | PEL     | USA | "10 µg/m <sup>3</sup> TWA (See 29<br>CFR 1910.1018; except<br>Arsine, as As); 5 µg/m <sup>3</sup><br>Action Level (as As)" As<br>Inorganic arsenic<br>compounds [RR-00065-7] | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Arsenic (7440-38-2) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as As)"<br>As Arsenic inorganic<br>compounds [RR-00065-7]   | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Arsenic (7440-38-2) | TWA     | USA | "10 µg/m <sup>3</sup> TWA (as As)" As<br>Arsenic, inorganic<br>compounds [RR-00065-7]  | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)             |
| Arsenic (7440-38-2) | TWA     | USA | "10 µg/m <sup>3</sup> TWA (as As)" As<br>Arsenic, inorganic<br>compounds [RR-00065-7]  | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)             |
| Arsenic (7440-38-2) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as As)"<br>As Arsenic inorganic<br>compounds [RR-00065-7]   | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |

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| Arsenic (7440-38-2) | PEL           | USA | "10 μg/m³ TWA (See 29<br>CFR 1910.1018; except | U.S OSHA - Specifically Regulated<br>Chemicals with PELs |
|---------------------|---------------|-----|--|--|
|                     |               |     | Arsine, as As); 5 µg/m <sup>3</sup>            | Chemicals with FELS                                      |
|                     |               |     | Action Level (as As)" As                       |  |
|                     |               |     | ( , , , , , , , , , , , , , , , , , , ,        |  |
|                     |               |     | Inorganic arsenic                              |  |
|                     | TI \ / T\ / A |     | compounds [RR-00065-7]                         |  |
| Arsenic (7440-38-2) | TLV-TWA       | USA | 0.01 mg/m³ TWA                                 | ACGIH - Threshold Limit Values - Time                    |
|                     |               |     |  | Weighted Averages (TLV-TWA)                              |
| Arsenic (7440-38-2) | PEL           | USA | "10 µg/m³ TWA (See 29                          | U.S OSHA - Specifically Regulated                        |
|                     |               |     | CFR 1910.1018; except                          | Chemicals with PELs                                      |
|                     |               |     | Arsine, as As); 5 µg/m <sup>3</sup>            |  |
|                     |               |     | Action Level (as As)" As                       |  |
|                     |               |     | Inorganic arsenic                              |  |
|                     |               |     | compounds [RR-00065-7]                         |  |
| Arsenic (7440-38-2) | TLV-TWA       | USA | "0.01 mg/m³ TWA (as As)"                       | ACGIH - Threshold Limit Values - Time                    |
|                     |               |     | As Arsenic inorganic                           | Weighted Averages (TLV-TWA)                              |
|                     |               |     | compounds [RR-00065-7]                         |  |
| Arsenic (7440-38-2) | TWA           | USA | "10 µg/m³ TWA (as As)" As                      | U.S OSHA - Final PELs - Time                             |
|                     |               |     | Arsenic, inorganic                             | Weighted Averages (TWAs)                                 |
|                     |               |     | compounds [RR-00065-7]                         |  |
| Cadmium (7440-43-9) | PEL           | USA | "5 μg/m³ TWA (See 29 CFR                       | U.S OSHA - Specifically Regulated                        |
|                     |               |     | 1910.1027, as Cd); 2.5                         | Chemicals with PELs                                      |
|                     |               |     | µg/m³ Action Level (as Cd)"                    |  |
|                     |               |     | As Cadmium compounds                           |  |
|                     |               |     | [RR-00559-4]                                   |  |
| Cadmium (7440-43-9) | TLV-TWA       | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);           | ACGIH - Threshold Limit Values - Time                    |
|                     |               |     | 0.002 mg/m <sup>3</sup> TWA                    | Weighted Averages (TLV-TWA)                              |
|                     |               |     | (respirable particulate                        |  |
|                     |               |     | matter, as Cd)" As                             |  |
|                     |               |     | Cadmium compounds                              |  |
|                     |               |     | [RR-00559-4]                                   |  |
| Cadmium (7440-43-9) | PEL           | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR           | U.S OSHA - Specifically Regulated                        |
| · · · · /           |               | -   | 1910.1027, as Cd); 2.5                         | Chemicals with PELs                                      |
|                     |               |     | μg/m <sup>3</sup> Action Level (as Cd)"        |  |
|                     |               |     | As Cadmium compounds                           |  |
|                     |               |     |  |  |

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## **Safety Data Sheet**

| Cadmium (7440-43-9) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4] | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
|---------------------|---------|-----|---|--|
| Cadmium (7440-43-9) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4] | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Cadmium (7440-43-9) | PEL     | USA | "5 µg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>µg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]         | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | PEL     | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]         | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4] | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Cadmium (7440-43-9) | PEL     | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]         | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4] | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |

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## **Safety Data Sheet**

| Cadmium (7440-43-9) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4] | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
|---------------------|---------|-----|---|--|
| Cadmium (7440-43-9) | PEL     | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]         | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | PEL     | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]         | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4] | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Cadmium (7440-43-9) | PEL     | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]         | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | TLV-TWA | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4] | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Cadmium (7440-43-9) | PEL     | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]         | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |

## **Safety Data Sheet**

| Cadmium (7440-43-9) | TLV-TWA     | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4]  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
|---------------------|-------------|-----|--|--|
| Cadmium (7440-43-9) | PEL         | USA | 5 µg/m³ TWA (See 29 CFR<br>1910.1027); 2.5 µg/m³<br>Action Level   | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | TLV-TWA     | USA | 0.01 mg/m <sup>3</sup> TWA; 0.002<br>mg/m <sup>3</sup> TWA (respirable<br>particulate matter)  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Cadmium (7440-43-9) | PEL-Ceiling | USA | 0.3 mg/m <sup>3</sup> Ceiling (applies<br>to any operations or sectors<br>for which the Cadmium<br>standard is stayed or<br>otherwise not in effect,<br>fume); 0.6 mg/m <sup>3</sup> Ceiling<br>(applies to any operations<br>or sectors for which the<br>Cadmium standard is<br>stayed or otherwise not in<br>effect, dust) | U.S OSHA - Final PELs - Ceiling<br>Limits                            |
| Cadmium (7440-43-9) | TWA         | USA | 5 μg/m³ TWA  | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)             |
| Cadmium (7440-43-9) | TLV-TWA     | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4]  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA) |
| Cadmium (7440-43-9) | PEL         | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]  | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |
| Cadmium (7440-43-9) | PEL         | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1027, as Cd); 2.5<br>μg/m <sup>3</sup> Action Level (as Cd)"<br>As Cadmium compounds<br>[RR-00559-4]  | U.S OSHA - Specifically Regulated<br>Chemicals with PELs             |

## **Safety Data Sheet**

| Cadmium (7440-43-9)             | TLV-TWA     | USA | "0.01 mg/m <sup>3</sup> TWA (as Cd);<br>0.002 mg/m <sup>3</sup> TWA<br>(respirable particulate<br>matter, as Cd)" As<br>Cadmium compounds<br>[RR-00559-4]  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
|---------------------------------|-------------|-----|--|--|
| Cobalt (7440-48-4)              | TWA         | USA | 0.1 mg/m <sup>3</sup> TWA (dust and fume)  | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)                     |
| Cobalt (7440-48-4)              | TLV-TWA     | USA | 0.02 mg/m <sup>3</sup> TWA (inhalable particulate matter)  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
| Cobalt (7440-48-4)              | TLV-TWA     | USA | 0.02 mg/m <sup>3</sup> TWA (inhalable particulate matter, as Co)   | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
| Copper (7440-50-8)              | TWA         | USA | 0.1 mg/m <sup>3</sup> TWA (fume); 1<br>mg/m <sup>3</sup> TWA (dust and mist)   | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)                     |
| Copper (7440-50-8)              | TLV-TWA     | USA | 0.2 mg/m³ TWA (fume)   | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
| Copper (7440-50-8)              | TLV-TWA     | USA | "1 mg/m <sup>3</sup> TWA (dust and<br>mist, as Cu)" As Copper<br>compounds [RR-00595-8]  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
| Copper (7440-50-8)              | TLV-TWA     | USA | "1 mg/m <sup>3</sup> TWA (dust and<br>mist, as Cu)" As Copper<br>compounds [RR-00595-8]  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
| Nitric Acid (7697-37-2)         | TWA         | USA | 2 ppm TWA; 5 mg/m <sup>3</sup> TWA   | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)                     |
| Nitric Acid (7697-37-2)         | TLV-TWA     | USA | 2 ppm TWA  | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
| Nitric Acid (7697-37-2)         | TLV-STEL    | USA | 4 ppm STEL   | ACGIH - Threshold Limit Values -<br>Short Term Exposure Limits<br>(TLV-STEL) |
| Ammonium Dichromate (7789-09-5) | PEL-Ceiling | USA | "0.1 mg/m <sup>3</sup> Ceiling (applies<br>to any operations or sectors<br>for which the Hexavalent<br>Chromium standard [29<br>CFR 1910.1026] is stayed<br>or is otherwise not in effect,<br>as CrO3)" As Chromates<br>[RR-01554-3] | U.S OSHA - Final PELs - Ceiling<br>Limits                                    |

## **Safety Data Sheet**

| Ammonium Dichromate (7789-09-5) | TLV-TWA     | USA | "0.0002 mg/m <sup>3</sup> TWA           | ACGIH - Threshold Limit Values - Time |
|---------------------------------|-------------|-----|---|---------------------------------------|
|                                 |             |     | (inhalable particulate                  | Weighted Averages (TLV-TWA)           |
|                                 |             |     | matter, as Cr(VI))" As                  |                                       |
|                                 |             |     | Hexavalent chromium                     |                                       |
|                                 |             |     | inorganic water-soluble                 |                                       |
|                                 |             |     | compounds [RR-53130-6]                  |                                       |
| Ammonium Dichromate (7789-09-5) | TLV-STEL    | USA | "0.0005 mg/m <sup>3</sup> STEL          | ACGIH - Threshold Limit Values -      |
|                                 |             |     | (inhalable particulate                  | Short Term Exposure Limits            |
|                                 |             |     | matter, as Cr(VI))" As                  | (TLV-STEL)                            |
|                                 |             |     | Hexavalent chromium                     |                                       |
|                                 |             |     | inorganic water-soluble                 |                                       |
|                                 |             |     | compounds [RR-53130-6]                  |                                       |
| Ammonium Dichromate (7789-09-5) | TWA         | USA | "5 µg/m³ TWA" As                        | U.S OSHA - Final PELs - Time          |
|                                 |             |     | Chromium(VI) compounds                  | Weighted Averages (TWAs)              |
|                                 |             |     | [RR-00026-0]                            |                                       |
| Ammonium Dichromate (7789-09-5) | PEL         | USA | "5 µg/m³ TWA (See 29 CFR                | U.S OSHA - Specifically Regulated     |
|                                 |             |     | 1910.1026, as Cr); 2.5                  | Chemicals with PELs                   |
|                                 |             |     | µg/m <sup>3</sup> Action Level (as Cr)" |                                       |
|                                 |             |     | As Chromium(VI)                         |                                       |
|                                 |             |     | compounds [RR-00026-0]                  |                                       |
| Ammonium Dichromate (7789-09-5) | TWA         | USA | "5 µg/m³ TWA" As                        | U.S OSHA - Final PELs - Time          |
|                                 |             |     | Chromium(VI) compounds                  | Weighted Averages (TWAs)              |
|                                 |             |     | [RR-00026-0]                            |                                       |
| Ammonium Dichromate (7789-09-5) | PEL         | USA | "5 µg/m³ TWA (See 29 CFR                | U.S OSHA - Specifically Regulated     |
|                                 |             |     | 1910.1026, as Cr); 2.5                  | Chemicals with PELs                   |
|                                 |             |     | µg/m³ Action Level (as Cr)"             |                                       |
|                                 |             |     | As Chromium(VI)                         |                                       |
|                                 |             |     | compounds [RR-00026-0]                  |                                       |
| Ammonium Dichromate (7789-09-5) | PEL         | USA | 5 µg/m³ TWA (See 29 CFR                 | U.S OSHA - Specifically Regulated     |
|                                 |             |     | 1910.1026, as Cr); 2.5                  | Chemicals with PELs                   |
|                                 |             |     | µg/m <sup>3</sup> Action Level (as Cr)  |                                       |
| Ammonium Dichromate (7789-09-5) | TWA         | USA | 5 μg/m³ TWA                             | U.S OSHA - Final PELs - Time          |
|                                 |             |     |   | Weighted Averages (TWAs)              |
| Ammonium Dichromate (7789-09-5) | PEL-Ceiling | USA | 0.1 mg/m <sup>3</sup> Ceiling (applies  | U.S OSHA - Final PELs - Ceiling       |
|                                 |             |     | to any operations or sectors            | Limits                                |
|                                 |             |     | for which the Hexavalent                |                                       |
|                                 |             |     | Chromium standard [29                   |                                       |
|                                 |             |     | CFR 1910.1026] is stayed                |                                       |
|                                 |             |     | or is otherwise not in effect,          |                                       |
|                                 |             |     | as CrO3)                                |                                       |

## Safety Data Sheet

| Ammonium Dichromate (7789-09-5) | TWA      | USA | "5 μg/m³ TWA" As   | U.S OSHA - Final PELs - Time   |
|---------------------------------|----------|-----|--|--|
|                                 |          |     | Chromium(VI) compounds<br>[RR-00026-0]   | Weighted Averages (TWAs)   |
| Ammonium Dichromate (7789-09-5) | PEL      | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1026, as Cr); 2.5<br>μg/m <sup>3</sup> Action Level (as Cr)"<br>As Chromium(VI)<br>compounds [RR-00026-0] | U.S OSHA - Specifically Regulated<br>Chemicals with PELs                     |
| Ammonium Dichromate (7789-09-5) | PEL      | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1026, as Cr); 2.5<br>μg/m <sup>3</sup> Action Level (as Cr)"<br>As Chromium(VI)<br>compounds [RR-00026-0] | U.S OSHA - Specifically Regulated<br>Chemicals with PELs                     |
| Ammonium Dichromate (7789-09-5) | TWA      | USA | "5 μg/m³ TWA" As<br>Chromium(VI) compounds<br>[RR-00026-0]   | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)                     |
| Ammonium Dichromate (7789-09-5) | PEL      | USA | "5 μg/m <sup>3</sup> TWA (See 29 CFR<br>1910.1026, as Cr); 2.5<br>μg/m <sup>3</sup> Action Level (as Cr)"<br>As Chromium(VI)<br>compounds [RR-00026-0] | U.S OSHA - Specifically Regulated<br>Chemicals with PELs                     |
| Ammonium Dichromate (7789-09-5) | TWA      | USA | "5 µg/m <sup>3</sup> TWA" As<br>Chromium(VI) compounds<br>[RR-00026-0]   | U.S OSHA - Final PELs - Time<br>Weighted Averages (TWAs)                     |
| Ammonium Dichromate (7789-09-5) | TLV-TWA  | USA | 0.0002 mg/m <sup>3</sup> TWA<br>(inhalable particulate<br>matter, as Cr(VI))   | ACGIH - Threshold Limit Values - Time<br>Weighted Averages (TLV-TWA)         |
| Ammonium Dichromate (7789-09-5) | TLV-STEL | USA | 0.0005 mg/m <sup>3</sup> STEL<br>(inhalable particulate<br>matter, as Cr(VI))  | ACGIH - Threshold Limit Values -<br>Short Term Exposure Limits<br>(TLV-STEL) |

#### 8.2. Exposure Controls

Engineering Controls: Use only outdoors or in a well-ventilated area. No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate.

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. In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

#### Product Number: RINFCK15

## **Safety Data Sheet**

#### **SECTION 9: Physical and Chemical Properties**

#### 9.1. Basic Physical and Chemical Properties

Appearance: Clear to slight yellow Physical State: Liquid Odor: Data not available. Odor Threshold: Data not available. **pH**: acidic Melting/Freezing Point: Approximately 0°C Initial Boiling Point/Range: Approximately 100°C - Approximately 100°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: 1.05 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 bases, metallic powders.

#### **10.4. Hazardous Decomposition Products**

Will not occur.

#### Product Number: RINFCK15

## **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:

Fatal if inhaled. Do not breathe fumes, mist, vapors, or spray. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment is urgent (Wash areas of contact with water immediately). Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

#### Acute Toxicity - Other Information:

LDLo, Oral, Human: 430 mg/kg (Nitric Acid), details of toxic effects not reported other than lethal dose value. Beryllium and Nickel are investigated as tumorigens. LD50, Oral, Rat: (Antimony Trioxide) >34600 mg/kg, behavioral and skin effects noted. Antimony Trioxide is investigated as a tumorigen. LD50, Oral, Rat: 14.6 mg/kg (Arsenic Trioxide), 2330 mg/kg (Cadmium) 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 immediately). 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:**

May damage fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

#### 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.

#### **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: 100 mL

UN Number: UN3264

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

Hazard Class: 8

Packing Group:

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):      | CORROSIVE   |

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

8

8

| 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):      | CORROSIVE   |

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## **Safety Data Sheet**

#### **SECTION 15: Regulatory Information**

#### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

Lead (CAS # 7439-92-1): 30 µg/m3 Action Level (See 29 CFR 1910.1025); 50 µg/m3 TWA (See 29 CFR 1910.1025)

Arsenic (CAS # 7440-38-2): "10 µg/m3 TWA (See 29 CFR 1910.1018, except Arsine, as As); 5 µg/m3 Action Level (See 29 CFR 1910.1018, except Arsine, as As)" As Inorganic arsenic compounds [RR-00065-7]

Cadmium (CAS # 7440-43-9): "5 µg/m3 TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m3 Action Level (as Cd)" As Cadmium compounds [RR-00559-4]

Cadmium (CAS # 7440-43-9): 5 µg/m3 TWA (See 29 CFR 1910.1027); 2.5 µg/m3 Action Level

Ammonium Dichromate (CAS # 7789-09-5): "5 µg/m3 TWA (See 29 CFR 1910.1026, as Cr); 2.5 µg/m3 Action Level (as Cr)" As Chromium(VI) compounds [RR-00026-0]

Ammonium Dichromate (CAS # 7789-09-5): 5 µg/m3 TWA (See 29 CFR 1910.1026, as Cr); 2.5 µg/m3 Action Level (as Cr)

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

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

Lead (CAS # 7439-92-1): 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m)

Nickel (CAS # 7440-02-0): 100 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m); 45.4 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m)

Arsenic (CAS # 7440-38-2): 1 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m); 0.454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m)

Arsenic (CAS # 7440-38-2): 1 lb final RQ; 0.454 kg final RQ

Cadmium (CAS # 7440-43-9): 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m)

Copper (CAS # 7440-50-8): 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100  $\mu$ m)

Zinc (CAS # 7440-66-6): 454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 1000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the

## **Safety Data Sheet**

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

Lead (CAS # 7439-92-1): 0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze) Lead (CAS # 7439-92-1): 100 lb RT (this lower threshold does not apply to lead when it is contained in stainless steel, brass or bronze alloy) Manganese (CAS # 7439-96-5): "1.0 % de minimis concentration (includes any unique chemical substance that contains Manganese as part of that chemical's infrastructure, listed under Chemical Category N450)" As Manganese compounds [RR-00602-0]

Manganese (CAS # 7439-96-5): 1.0 % de minimis concentration

Nickel (CAS # 7440-02-0): "0.1 % de minimis concentration (includes any unique chemical substance that contains Nickel as part of that chemical's infrastructure, listed under Chemical Category N495)" As Nickel compounds [RR-00800-4]

Nickel (CAS # 7440-02-0): 0.1 % de minimis concentration

Arsenic (CAS # 7440-38-2): "0.1 % de minimis concentration (includes any unique chemical substance that contains Arsenic as part of that chemical's infrastructure, listed under Chemical Category N020)" As Arsenic, inorganic compounds [RR-00065-7]

Arsenic (CAS # 7440-38-2): 0.1 % de minimis concentration

Cadmium (CAS # 7440-43-9): "0.1 % de minimis concentration (includes any unique chemical substance that contains Cadmium as part of that chemical's infrastructure, listed under Chemical Category N078)" As Cadmium compounds [RR-00559-4]

Cadmium (CAS # 7440-43-9): 0.1 % de minimis concentration

Cobalt (CAS # 7440-48-4): 0.1 % de minimis concentration

Cobalt (CAS # 7440-48-4): 0.1 % de minimis concentration (includes any unique chemical substance that contains Cobalt as part of that chemical's infrastructure, listed under Chemical Category N096)

Copper (CAS # 7440-50-8): "1.0 % de minimis concentration (includes any unique chemical substance that contains Copper as part of that chemical's infrastructure except for CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are sub

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

Lead (CAS # 7439-92-1): Teratogen Magnesium (CAS # 7439-95-4): Present Manganese (CAS # 7439-96-5): Present Nickel (CAS # 7440-02-0): Carcinogen; Extraordinarily hazardous Arsenic (CAS # 7440-38-2): Carcinogen; Extraordinarily hazardous Cadmium (CAS # 7440-43-9): Carcinogen; Extraordinarily hazardous Cobalt (CAS # 7440-48-4): Present Copper (CAS # 7440-50-8): Present Zinc (CAS # 7440-66-6): Present Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous Ammonium Dichromate (CAS # 7789-09-5): Present Ammonium Metavanadate (CAS # 7803-55-6): Present



#### 15.6. Pennsylvania Right-to-Know Hazardous Substances Lead (CAS # 7439-92-1): Environmental hazard Lead (CAS # 7439-92-1): Present Magnesium (CAS # 7439-95-4): Present Manganese (CAS # 7439-96-5): "Environmental hazard" As Manganese compounds [RR-00602-0] Manganese (CAS # 7439-96-5): "Present" As Manganese compounds [RR-00602-0] Manganese (CAS # 7439-96-5): Environmental hazard Manganese (CAS # 7439-96-5): Present Nickel (CAS # 7440-02-0): "Environmental hazard" As Nickel compounds [RR-00800-4] Nickel (CAS # 7440-02-0): "Present" As Nickel compounds [RR-00800-4] Nickel (CAS # 7440-02-0): Environmental hazard Nickel (CAS # 7440-02-0): Environmental hazard; Special hazardous substance Nickel (CAS # 7440-02-0): Present Arsenic (CAS # 7440-38-2): "Environmental hazard" As Arsenic compounds [RR-00625-7] Arsenic (CAS # 7440-38-2): "Present" As Arsenic compounds [RR-00625-7] Arsenic (CAS # 7440-38-2): Environmental hazard (including inorganic); Special hazardous substance Arsenic (CAS # 7440-38-2): Present Arsenic (CAS # 7440-38-2): Present (including inorganic) Cadmium (CAS # 7440-43-9): "Environmental hazard" As Cadmium compounds [RR-00559-4] Cadmium (CAS # 7440-43-9): "Present" As Cadmium compounds [RR-00559-4] Cadmium (CAS # 7440-43-9): Environmental hazard (dust; fume; metal; powder); Special hazardous substance (metal; powder) Cadmium (CAS # 7440-43-9): Present (dust; fume; metal; powder) Cadmium (CAS # 7440-43-9): Present (metal; powder) Cobalt (CAS # 7440-48-4): "Environmental hazard" As Cobalt compounds [RR-00107-0] Cobalt (CAS # 7440-48-4): "Present" As Cobalt compounds [RR-00107-0] Cobalt (CAS # 7440-48-4): Environmental hazard; Present (fume) Cobalt (CAS # 7440-48-4): Present Copper (CAS # 7440-50-8): "Environmental hazard" As Copper compounds [RR-00595-8] Copper (CAS # 7440-50-8): "Present" As Copper compounds [RR-00595-8] Copper (CAS # 7440-50-8): Environmental hazard (dust; fume; metal) Copper (CAS # 7440-50-8): Present (dust; fume; metal) Zinc (CAS # 7440-66-6): "Environmental hazard" As Zinc compounds [RR-005



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

Lead (CAS # 7439-92-1): carcinogen; teratogen Lead (CAS # 7439-92-1): sn 1096 Lead (CAS # 7439-92-1): SN 1096 500 lb TPQ Magnesium (CAS # 7439-95-4): sn 1136 Manganese (CAS # 7439-96-5): "SN 2324 500 lb TPQ (Category Code N450. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Manganese compounds [RR-00602-0] Manganese (CAS # 7439-96-5): "sn 2324" As Manganese compounds [RR-00602-0] Manganese (CAS # 7439-96-5): flammable - third degree Manganese (CAS # 7439-96-5): sn 1155 Manganese (CAS # 7439-96-5): SN 1155 500 lb TPQ Nickel (CAS # 7440-02-0): "carcinogen" As Nickel compounds [RR-00800-4] Nickel (CAS # 7440-02-0): "SN 2366 500 lb TPQ (Category Code N495. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Nickel compounds [RR-00800-4] Nickel (CAS # 7440-02-0): "sn 2366" As Nickel compounds [RR-00800-4] Nickel (CAS # 7440-02-0): carcinogen Nickel (CAS # 7440-02-0): sn 1341 Nickel (CAS # 7440-02-0): SN 1341 500 lb TPQ Arsenic (CAS # 7440-38-2): "SN 2138 500 lb TPQ (Category Code N020. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Arsenic compounds [RR-00625-7] Arsenic (CAS # 7440-38-2): "sn 2138" As Arsenic compounds [RR-00625-7] Arsenic (CAS # 7440-38-2): carcinogen; teratogen Arsenic (CAS # 7440-38-2): sn 0152 Arsenic (CAS # 7440-38-2): SN 0152 500 lb TPQ Cadmium (CAS # 7440-43-9): "carcinogen" As Cadmium compounds [RR-00559-4] Cadmium (CAS # 7440-43-9): "SN 2199 500 lb TPQ (Category Code N078. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Cadmium compounds [RR-00559-4] Cadmium (CAS # 7440-43-9): "sn 2199" As Cadmium compounds [RR-00559-4] Cadmium (CAS # 7440-43-9): carcinogen; flammable - third degree; teratogen Cadmium (CAS # 7440-43-9): sn 0305 Cadmium (CAS # 7440-43-9): SN 0305 500 lb TPQ Cobalt (CAS # 7440-48-4): "carcinog



#### 15.8. California Proposition 65

Lead (CAS # 7439-92-1): 15 µg/day NSRL (oral) Lead (CAS # 7439-92-1): carcinogen, 10/1/1992 Lead (CAS # 7439-92-1): developmental toxicity, 2/27/1987 Lead (CAS # 7439-92-1): female reproductive toxicity 2/27/87 Lead (CAS # 7439-92-1): male reproductive toxicity, 2/27/87 Nickel (CAS # 7440-02-0): "carcinogen, 5/7/2004" As Nickel compounds [RR-00800-4] Nickel (CAS # 7440-02-0): carcinogen, 10/1/1989 (metallic) Arsenic (CAS # 7440-38-2): "0.06 µg/day NSRL (inhalation, listed under Arsenic); 10 µg/day NSRL (except inhalation, listed under Arsenic)" As Arsenic, inorganic compounds [RR-00065-7] Arsenic (CAS # 7440-38-2): "carcinogen, 2/27/1987" As Arsenic, inorganic compounds [RR-00065-7] Arsenic (CAS # 7440-38-2): 0.06 µg/day NSRL (inhalation); 10 µg/day NSRL (except inhalation) Cadmium (CAS # 7440-43-9): "carcinogen, 10/1/1987" As Cadmium compounds [RR-00559-4] Cadmium (CAS # 7440-43-9): 0.05 µg/day NSRL (inhalation) Cadmium (CAS # 7440-43-9): carcinogen, 10/1/1987 Cadmium (CAS # 7440-43-9): developmental toxicity, 5/1/1997 Cadmium (CAS # 7440-43-9): male reproductive toxicity, 5/1/97 Cobalt (CAS # 7440-48-4): carcinogen, 7/1/1992 (powder) Ammonium Dichromate (CAS # 7789-09-5): "carcinogen, 2/27/1987" As Chromium hexavalent compounds [RR-00026-0] Ammonium Dichromate (CAS # 7789-09-5): "developmental toxicity, 12/19/2008" As Chromium(VI) compounds [RR-00026-0] Ammonium Dichromate (CAS # 7789-09-5): "female reproductive toxicity 12/19/08" As Chromium hexavalent compounds [RR-00026-0] Ammonium Dichromate (CAS # 7789-09-5): "male reproductive toxicity, 12/19/08" As Chromium hexavalent compounds [RR-00026-0] Ammonium Dichromate (CAS # 7789-09-5): carcinogen, 2/27/1987 Ammonium Dichromate (CAS # 7789-09-5): developmental toxicity, 12/19/2008 Ammonium Dichromate (CAS # 7789-09-5): female reproductive toxicity 12/19/08 Ammonium Dichromate (CAS # 7789-09-5): male reproductive toxicity, 12/19/08



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

Calcium Carbonate (CAS # 471-34-1): Present (DSL) Iron (CAS # 7439-89-6): Present (DSL) Lead (CAS # 7439-92-1): Present (DSL) Magnesium (CAS # 7439-95-4): Present (DSL) Manganese (CAS # 7439-96-5): Present (DSL) Nickel (CAS # 7440-02-0): Present (DSL) Arsenic (CAS # 7440-38-2): Present (DSL) Cadmium (CAS # 7440-43-9): Present (DSL) Cobalt (CAS # 7440-48-4): Present (DSL) Copper (CAS # 7440-50-8): Present (DSL) Zinc (CAS # 7440-66-6): Present (DSL) Nitric Acid (CAS # 7697-37-2): Present (DSL) Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): Present (DSL) Water (CAS # 7732-18-5): Present (DSL) Aluminum Nitrate Nonahydrate (CAS # 7784-27-2): Present (DSL) Ammonium Dichromate (CAS # 7789-09-5): Present (DSL) Ammonium Metavanadate (CAS # 7803-55-6): 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.

Calcium Carbonate (CAS # 471-34-1): Present (ACTIVE) Iron (CAS # 7439-89-6): Present (ACTIVE) Lead (CAS # 7439-92-1): Present (ACTIVE) Magnesium (CAS # 7439-95-4): Present (ACTIVE) Manganese (CAS # 7439-96-5): Present (ACTIVE) Nickel (CAS # 7440-02-0): Present (ACTIVE) Arsenic (CAS # 7440-38-2): Present (ACTIVE) Cadmium (CAS # 7440-43-9): Present (ACTIVE) Cobalt (CAS # 7440-48-4): Present (ACTIVE) Copper (CAS # 7440-50-8): Present (ACTIVE) Zinc (CAS # 7440-66-6): Present (ACTIVE) Nitric Acid (CAS # 7697-37-2): Present (ACTIVE) Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): Present (ACTIVE) Water (CAS # 7732-18-5): Present (ACTIVE) Aluminum Nitrate Nonahydrate (CAS # 7784-27-2): Present (ACTIVE) Ammonium Dichromate (CAS # 7789-09-5): Present (ACTIVE) Ammonium Metavanadate (CAS # 7803-55-6): Present (ACTIVE)



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

Calcium Carbonate (CAS # 471-34-1): 207-439-9 Iron (CAS # 7439-89-6): 231-096-4 Lead (CAS # 7439-92-1): 231-100-4 Magnesium (CAS # 7439-95-4): 231-104-6 Manganese (CAS # 7439-96-5): 231-105-1 Nickel (CAS # 7440-02-0): 231-111-4 Arsenic (CAS # 7440-38-2): 231-148-6 Cadmium (CAS # 7440-43-9): 231-152-8 Cobalt (CAS # 7440-48-4): 231-158-0 Copper (CAS # 7440-50-8): 231-159-6 Zinc (CAS # 7440-66-6): 231-175-3 Nitric Acid (CAS # 7697-37-2): 231-714-2 Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): 231-764-5 Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): 233-330-0 Water (CAS # 7732-18-5): 231-791-2 Aluminum Nitrate Nonahydrate (CAS # 7784-27-2): 236-751-8 Ammonium Dichromate (CAS # 7789-09-5): 232-143-1 Ammonium Metavanadate (CAS # 7803-55-6): 232-261-3

#### **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. Fatal if inhaled. May damage fertility or the unborn child. Toxic to aquatic life with long lasting effects.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory 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: Get medical attention. Specific treatment is urgent (Wash areas of contact with water immediately). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Collect spillage.

Store in a well-ventilated place. Keep container tightly closed. 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.

#### Product Number: RINFCK15



#### 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: 2023-09-11

#### 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.