



## Safety Data Sheet

### Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

#### 1.1 Product identifier

- Product Name** • **Component Empty Shellcases (Unprimed) (Centerfire)**
- Synonyms** • Centerfire Empty Pistol Shellcase; Centerfire Empty Revolver Shellcase; Centerfire Empty Rifle Shellcase
- SDS Number/Grade** • CFMTCASE

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

- Relevant identified use(s)** • Handloading / Reloading

#### 1.3 Details of the supplier of the safety data sheet

- Manufacturer** • Remington Arms  
2592 AR HWY 15 N  
Lonoke, AR 72086  
United States  
www.remington.com
- Telephone (General)** • 501-676-3161

#### 1.4 Emergency telephone number

- Manufacturer** • (800) 424-9300 - CHEMTREC
- Manufacturer** • 501-676-3161 - Company Emergency Telephone Number

### Section 2: Hazards Identification

#### EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

#### 2.1 Classification of the substance or mixture

- CLP** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335  
Carcinogenicity 2 - H351

#### 2.2 Label Elements

**CLP**

#### WARNING



- Hazard statements** • H335 - May cause respiratory irritation  
H351 - Suspected of causing cancer.

**Precautionary statements**

- Prevention** • P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P261 - Avoid breathing dust or fume.  
P271 - Use only outdoors or in a well-ventilated area.  
P281 - Use personal protective equipment as required.

- Response** • P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.  
P308+P313 - IF exposed or concerned: Get medical advice/attention.

- Storage/Disposal** • P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**2.3 Other Hazards**

- CLP**
- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

**United States (US)**

According to: OSHA 29 CFR 1910.1200 HCS

**2.1 Classification of the substance or mixture**

- OSHA HCS 2012**
- Skin Sensitization 1A  
Respiratory Sensitization 1B  
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation  
Carcinogenicity 2  
Combustible Dust  
Hazards Not Otherwise Classified - Health Hazards - Metal fume fever

**2.2 Label elements**

**OSHA HCS 2012**

**DANGER**



- Hazard statements** • May cause an allergic skin reaction  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause respiratory irritation  
Suspected of causing cancer.  
May form combustible dust concentrations in air.

**Precautionary statements**

- Prevention** • Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Avoid breathing dust or fume.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
In case of inadequate ventilation wear respiratory protection.
- Response** • IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
If on skin: Wash with plenty of water .

Specific treatment, see supplemental first aid information.  
 Wash contaminated clothing before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 IF exposed or concerned: Get medical advice/attention.

**Storage/Disposal** • Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.

Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## 2.3 Other hazards

### OSHA HCS 2012

- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

## Section 3 - Composition/Information on Ingredients

### 3.1 Substances

- Material does not meet the criteria of a substance.

### 3.2 Mixtures

| Composition   |   |               |           |   |          |
|---------------|---|---------------|-----------|---|----------|
| Chemical Name | Identifiers   | %             | LD50/LC50 | Classifications According to Regulation/Directive   | Comments |
| Copper        | CAS:7440-50-8<br>EC Number:231-159-6                          | 69% TO<br>70% | NDA       | EU CLP: STOT SE 3: Resp. Irrit., H335<br>OSHA HCS 2012: Comb. Dust; STOT SE 3: Resp. Irrit.   | NDA      |
| Zinc          | CAS:7440-66-6<br>EC Number:231-175-3<br>EU Index:030-001-00-1 | 29% TO<br>30% | NDA       | EU CLP: Not Classified<br>OSHA HCS 2012: Comb. Dust; Hazard Not Otherwise Classified - Health Hazard - Metal fume fever   | NDA      |
| Nickel        | CAS:7440-02-0<br>EC Number:231-111-4                          | < 1%          | NDA       | EU CLP: Annex VI, Table 3.1: Skin Sens. 1, H317; Carc. 2, H351 (Inhl); STOT RE 1, H372 (Lungs, Orl, Skn, Inhl); Aquatic Chronic 3, H412<br>OSHA HCS 2012: Flam. Sol. 1; Comb. Dust; Resp. Sens. 1B; Skin Sens. 1A; Carc. 2 (Inhl); STOT RE 2 (Lungs, Orl, Inhl) | NDA      |

See Section 16 for full text of H-statements.

## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

#### Inhalation

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If signs/symptoms develop, move person to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

#### Skin

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Wash skin with soap and water. If signs/symptoms develop, get medical attention.

- Eye**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Remove contact lenses if worn. Flush eyes with water for at least 15 minutes. If signs/symptoms develop, get medical attention.
- Ingestion**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Give plenty of water to drink. Induce vomiting (only in conscious persons) Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

#### **4.2 Most important symptoms and effects, both acute and delayed**

- Refer to Section 11 - Toxicological Information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

- Notes to Physician**
- No specific actions or treatments recommended related to exposure to this material.

### **Section 5 - Firefighting Measures**

#### **5.1 Extinguishing media**

**Suitable Extinguishing Media** • Water, carbon dioxide, dry chemical, earth.

**Unsuitable Extinguishing Media** • No data available.

#### **5.2 Special hazards arising from the substance or mixture**

**Unusual Fire and Explosion Hazards** • Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Hazardous Combustion Products** • No data available

#### **5.3 Advice for firefighters**

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Evacuate area. Flood fire with water to fight fire and cool shells. If no water is available, use carbon dioxide, dry chemical or earth. Fight fire with normal precautions from a reasonable distance.

### **Section 6 - Accidental Release Measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** • Do not walk through spilled material. Do not strike or crush the rounds.

**Emergency Procedures** • Eliminate all ignition sources. Use normal clean up procedures. Contain spill and monitor for excessive dust accumulation. Avoid unnecessary personnel and equipment traffic in the spill area.

#### **6.2 Environmental precautions**

- No special environmental precautions necessary.

#### **6.3 Methods and material for containment and cleaning up**

**Containment/Clean-up Measures** • Avoid generating dust. Use clean nonsparking tools to collect material. Carefully shovel or sweep up spilled material and place in suitable container. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

#### **6.4 Reference to other sections**

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

#### Handling

- Do not use in areas without adequate ventilation. Handle with care. Do not strike or crush the rounds (cartridges). Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Use personal protective equipment as required. Avoid breathing dust or fume. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage

- Keep only in the original container. Store in a cool, dry, well-ventilated place. Keep away from sources of ignition – No Smoking. Do not subject to mechanical shock. Keep out of reach of children. This product must not be stored with acids, strong oxidizers or caustics.

### 7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

## Section 8 - Exposure Controls/Personal Protection

### 8.1 Control parameters

| Exposure Limits/Guidelines |          |  |   |   |   |
|----------------------------|----------|--|---|---|---|
|                            | Result   | ACGIH  | Germany DFG   | NIOSH   | OSHA  |
| Nickel<br>(7440-02-0)      | TWAs     | 1.5 mg/m <sup>3</sup> TWA (inhalable fraction) | Not established   | 0.015 mg/m <sup>3</sup> TWA   | 1 mg/m <sup>3</sup> TWA   |
| Zinc<br>(7440-66-6)        | Ceilings | Not established                                | 0.4 mg/m <sup>3</sup> Peak (respirable fraction); 4 mg/m <sup>3</sup> Peak (inhalable fraction)       | Not established   | Not established   |
|                            | MAKs     | Not established                                | 0.1 mg/m <sup>3</sup> TWA MAK (respirable fraction); 2 mg/m <sup>3</sup> TWA MAK (inhalable fraction) | Not established   | Not established   |
| Copper<br>(7440-50-8)      | TWAs     | 0.2 mg/m <sup>3</sup> TWA (fume)               | Not established   | 1 mg/m <sup>3</sup> TWA (dust and mist); 0.1 mg/m <sup>3</sup> TWA (fume) | 0.1 mg/m <sup>3</sup> TWA (fume); 1 mg/m <sup>3</sup> TWA (dust and mist) |
|                            | Ceilings | Not established                                | 0.02 mg/m <sup>3</sup> Peak (respirable fraction)   | Not established   | Not established   |
|                            | MAKs     | Not established                                | 0.01 mg/m <sup>3</sup> TWA MAK (including inorganic copper compounds, respirable fraction)            | Not established   | Not established   |

### Exposure Control Notations

#### ACGIH

- Nickel (7440-02-0): **Carcinogens:** (A5 - Not Suspected as a Human Carcinogen)

#### Germany DFG

- Copper (7440-50-8): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)
- Zinc (7440-66-6): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to (respirable fraction); no risk to embryo/fetus if exposure limits adhered to (inhalable fraction))
- Nickel (7440-02-0): **Carcinogens:** (Category 1 (causes cancer in man)) | **Sensitizers:** (respiratory and skin sensitizer (inhalable fraction, respiratory sensitization confirmed for water soluble Nickel compounds only))

•Nickel as Nickel compounds: **Carcinogens:** (Category 1 (causes cancer in man)) | **Sensitizers:** (respiratory and skin sensitizer (inhalable fraction, respiratory sensitization confirmed for water soluble Nickel compounds only))

**Exposure Limits Supplemental**

**ACGIH**

- Copper (7440-50-8): **TLV Basis - Critical Effects:** (metal fume fever (fume))
- Copper as Copper compounds: **TLV Basis - Critical Effects:** (gastrointestinal (dust and mist); irritation (dust and mist))
- Nickel (7440-02-0): **TLV Basis - Critical Effects:** (dermatitis; pneumoconiosis)

**8.2 Exposure controls**

**Engineering Measures/Controls**

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Personal Protective Equipment**

**Respiratory**

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

**Eye/Face**

- Wear safety glasses.

**Skin/Body**

- Wear protective clothing

**Environmental Exposure Controls**

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

**Additional Protection Measures**

- Hearing protection recommended when firing rounds.

**Key to abbreviations**

- ACGIH = American Conference of Governmental Industrial Hygiene
- OSHA = Occupational Safety and Health Administration
- MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration
- TLV = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)
- NIOSH = National Institute of Occupational Safety and Health
- TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

**Section 9 - Physical and Chemical Properties**

**9.1 Information on Physical and Chemical Properties**

| <b>Material Description</b>       |                                    |                              |   |
|-----------------------------------|------------------------------------|------------------------------|---|
| Physical Form                     | Solid                              | Appearance/Description       | Brass, Copper, and/or Silver/Gray solid with no odor. |
| Color                             | Brass, Copper, and/or Silver/Gray. | Odor                         | No odor.  |
| Odor Threshold                    | Data lacking                       |                              |   |
| <b>General Properties</b>         |                                    |                              |   |
| Boiling Point                     | Data lacking                       | Melting Point/Freezing Point | Data lacking  |
| Decomposition Temperature         | Data lacking                       | pH                           | Data lacking  |
| Specific Gravity/Relative Density | Data lacking                       | Water Solubility             | Negligible < 0.1 %                                    |
| Viscosity                         | Data lacking                       | Explosive Properties         | Data lacking  |
| Oxidizing Properties:             | Data lacking                       |                              |   |
| <b>Volatility</b>                 |                                    |                              |   |
| Vapor Pressure                    | Data lacking                       | Vapor Density                | Data lacking  |
| Evaporation Rate                  | Data lacking                       |                              |   |
| <b>Flammability</b>               |                                    |                              |   |
| Flash Point                       | Data lacking                       | UEL                          | Data lacking  |

|                                     |              |              |              |
|-------------------------------------|--------------|--------------|--------------|
| LEL                                 | Data lacking | Autoignition | Data lacking |
| Flammability (solid, gas)           | Data lacking |              |              |
| <b>Environmental</b>                |              |              |              |
| Octanol/Water Partition coefficient | Data lacking |              |              |

## 9.2 Other Information

- No additional physical and chemical parameters noted.

## Section 10: Stability and Reactivity

### 10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

- Stable under normal temperatures and pressures.

### 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

- Flames, sparks, percussion, shock, static, high temperatures (266°F or 130°C, or above)

### 10.5 Incompatible materials

- Acids, strong oxidizers, caustics

### 10.6 Hazardous decomposition products

- No data available.

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

| Components                |  |
|---------------------------|--|
| Copper<br>(69% TO<br>70%) | 7440-50-8<br><b>Acute Toxicity:</b> Ingestion/Oral-Mouse TDLo • 108 mg/kg; <i>Behavioral:Tremor; Gastrointestinal:Hypermotility, diarrhea; Gastrointestinal:Nausea or vomiting;</i> Ingestion/Oral-Mouse TDLo • 158 mg/kg; <i>Kidney, Ureter, and Bladder:Changes in tubules (including acute renal failure, acute tubular necrosis);</i> Ingestion/Oral-Mouse TDLo • 232 mg/kg; <i>Kidney, Ureter, and Bladder:Changes primarily in glomeruli; Blood:Changes in spleen; Blood:Changes in serum composition (e.g., TP, bilirubin cholesterol);</i><br><b>Multi-dose Toxicity:</b> Ingestion/Oral-Rabbit TDLo • 3 g/kg 60 Day(s)-Continuous; <i>Cardiac:Other changes; Liver:Hepatitis (hepatocellular necrosis), zonal; Related to Chronic Data:Death in the Other Multiple Dose data type field;</i><br><b>Reproductive:</b> Ingestion/Oral-Rat TDLo • 1520 µg/kg (22W pre); <i>Reproductive Effects:Specific Developmental Abnormalities:Musculoskeletal system;</i> Ingestion/Oral-Rat TDLo • 152 mg/kg (22W pre); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Specific Developmental Abnormalities:Central nervous system;</i> Ingestion/Oral-Rat TDLo • 1210 µg/kg (35W pre); <i>Reproductive Effects:Effects on Fertility:Pre-implantation mortality; Reproductive Effects:Effects on Fertility:Post-implantation mortality;</i><br><b>Tumorigen / Carcinogen:</b> Ingestion/Oral-Mouse TDLo • 10.08 mg/kg 12 Week(s)-Continuous; <i>Tumorigenic:Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration:Other changes</i> |
| Zinc<br>(29% TO<br>30%)   | 7440-66-6<br><b>Irritation:</b> Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation;<br><b>Tumorigen / Carcinogen:</b> Ingestion/Oral-Mouse TDLo • 12.6 mg/kg 46 Week(s)-Continuous; <i>Tumorigenic:Carcinogenic by RTECS criteria; Gastrointestinal:Tumors; Tumorigenic:Facilitates action of known carcinogen</i>  |
|                           | <b>Acute Toxicity:</b> Ingestion/Oral-Mouse TDLo • 200 mg/kg; <i>Nutritional and Gross Metabolic:Gross Metabolite Changes:Weight loss or decreased weight gain; Behavioral:Somnolence (general depressed activity);</i><br><b>Multi-dose Toxicity:</b> Ingestion/Oral-Mouse TDLo • 500 mg/kg 5 Day(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Related to Chronic Data:Death in the Other Multiple Dose data type field;</i> Inhalation-Rabbit TClO • 1 mg/m <sup>3</sup> 6 Hour(s) 13 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Other changes; Lungs, Thorax, or</i>   |

|               |           |  |
|---------------|-----------|--|
| Nickel (< 1%) | 7440-02-0 | <p><b>Respiration:Changes in lung weight; Blood:Hemorrhage;</b> Inhalation-Rat TCl<sub>0</sub> • 0.4 mg/m<sup>3</sup> 40 Week(s)-Intermittent;<br/> <b>Vascular:Thrombosis distant from injection site; Lungs, Thorax, or Respiration:Other changes;</b> <i>Related to Chronic Data:Death in the Other Multiple Dose data type field;</i><br/> <b>Reproductive:</b> Ingestion/Oral-Rat TDLo • 158 mg/kg (multigenerations); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Effects on Embryo or Fetus:Fetal death;</i><br/> <b>Tumorigen / Carcinogen:</b> Inhalation-Guinea Pig TCl<sub>0</sub> • 15 mg/m<sup>3</sup> 91 Week(s)-Intermittent; <i>Tumorigenic:Equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration:Tumors; Lungs, Thorax, or Respiration:Bronchiogenic carcinoma</i></p> |
|---------------|-----------|--|

| GHS Properties                | Classification  |
|-------------------------------|---|
| Respiratory sensitization     | EU/CLP • Data lacking<br>OSHA HCS 2012 • Respiratory Sensitizer 1B  |
| Serious eye damage/Irritation | EU/CLP • Data lacking<br>OSHA HCS 2012 • Data lacking   |
| Acute toxicity                | EU/CLP • Data lacking<br>OSHA HCS 2012 • Data lacking   |
| Aspiration Hazard             | EU/CLP • Data lacking<br>OSHA HCS 2012 • Data lacking   |
| Carcinogenicity               | EU/CLP • Carcinogenicity 2<br>OSHA HCS 2012 • Carcinogenicity 2   |
| Germ Cell Mutagenicity        | EU/CLP • Data lacking<br>OSHA HCS 2012 • Data lacking   |
| Skin corrosion/Irritation     | EU/CLP • Data lacking<br>OSHA HCS 2012 • Data lacking   |
| Skin sensitization            | EU/CLP • Data lacking<br>OSHA HCS 2012 • Skin Sensitizer 1A   |
| STOT-RE                       | EU/CLP • Data lacking<br>OSHA HCS 2012 • Data lacking   |
| STOT-SE                       | EU/CLP • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation<br>OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation |
| Toxicity for Reproduction     | EU/CLP • Data lacking<br>OSHA HCS 2012 • Data lacking   |

**Potential Health Effects**

**Inhalation**

- Acute (Immediate)**
  - Inhalation of dust or fumes may cause irritation to nose, throat, upper respiratory tract and lungs. Irritation may lead to bronchitis, headache, lowering of blood pressure and weakness.
- Chronic (Delayed)**
  - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin**

- Acute (Immediate)**
  - May cause skin sensitization. Symptoms include redness, and skin rash.
- Chronic (Delayed)**
  - No data available

**Eye**

- Acute (Immediate)**
  - Dust and fumes can irritate the eyes causing redness and discharge.
- Chronic (Delayed)**
  - No data available

**Ingestion**



- Acute (Immediate)**
  - Ingestion may cause severe headache, nausea, vomiting, abdominal pain, fatigue, diarrhea, trembling, ringing in ear and salivation.
- Chronic (Delayed)**
  - No data available

**Other**

- Chronic (Delayed)**
  - When the ammunition is fired, a small amount of particles may be generated. The particles may contain trace amounts of these harmful substances: Inhalation of high concentrations of metallic copper dusts or fumes may cause nasal irritation and/or nausea, vomiting and stomach pain.

- Carcinogenic Effects**
  - Repeated and prolonged exposure may cause cancer.

| Carcinogenic Effects |           |                              |   |
|----------------------|-----------|------------------------------|---|
|                      | CAS       | IARC                         | NTP   |
| Nickel               | 7440-02-0 | Group 2B-Possible Carcinogen | Reasonably Anticipated to be Human Carcinogen |

**11.2 Other information**

- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

**Key to abbreviations**

TC = Toxic Concentration  
 TD = Toxic Dose

**Section 12 - Ecological Information**

**12.1 Toxicity**

- Material data lacking.

**12.2 Persistence and degradability**

- Material data lacking.

**12.3 Bioaccumulative potential**

- Material data lacking.

**12.4 Mobility in Soil**

- Material data lacking.

**12.5 Results of PBT and vPvB assessment**

- PBT and vPvB assessment has not been conducted for this material.

**12.6 Other adverse effects**

- No studies have been found.

**Section 13 - Disposal Considerations**

**13.1 Waste treatment methods**

- Product waste**
  - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging waste**
  - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Section 14 - Transport Information**

|           | 14.1 UN number | 14.2 UN proper shipping name | 14.3 Transport hazard class(es) | 14.4 Packing group | 14.5 Environmental hazards |
|-----------|----------------|------------------------------|---------------------------------|--------------------|----------------------------|
| DOT       | NDA            | Not Regulated                | NDA                             | NDA                | NDA                        |
| TDG       | NDA            | Not Regulated                | NDA                             | NDA                | NDA                        |
| IMO/IMDG  | NDA            | Not Regulated                | NDA                             | NDA                | NDA                        |
| IATA/ICAO | NDA            | Not Regulated                | NDA                             | NDA                | NDA                        |

14.6 Special precautions for user • None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Data lacking.

## Section 15 - Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Chronic, Pressure(Sudden Release of)

| State Right To Know |           |     |     |     |
|---------------------|-----------|-----|-----|-----|
| Component           | CAS       | MA  | NJ  | PA  |
| Copper              | 7440-50-8 | Yes | Yes | Yes |
| Nickel              | 7440-02-0 | Yes | Yes | Yes |
| Zinc                | 7440-66-6 | Yes | Yes | Yes |

| Inventory |           |           |           |      |
|-----------|-----------|-----------|-----------|------|
| Component | CAS       | EU EINECS | EU ELNICS | TSCA |
| Copper    | 7440-50-8 | Yes       | No        | Yes  |
| Nickel    | 7440-02-0 | Yes       | No        | Yes  |
| Zinc      | 7440-66-6 | Yes       | No        | Yes  |

## Europe

### Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

|          |           |                               |
|----------|-----------|-------------------------------|
| • Copper | 7440-50-8 | Not Listed                    |
| • Nickel | 7440-02-0 | Carc.Cat.3; R40 R43 T; R48/23 |
| • Zinc   | 7440-66-6 | Not Listed                    |

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

|          |           |                                   |
|----------|-----------|-----------------------------------|
| • Copper | 7440-50-8 | Not Listed                        |
| • Nickel | 7440-02-0 | T R:40-43-48/23 S:(2)-36/37/39-45 |
| • Zinc   | 7440-66-6 | Not Listed                        |

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations**

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | S, 7       |
| • Zinc   | 7440-66-6 | Not Listed |

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases**

|          |           |                   |
|----------|-----------|-------------------|
| • Copper | 7440-50-8 | Not Listed        |
| • Nickel | 7440-02-0 | S:(2)-36/37/39-45 |
| • Zinc   | 7440-66-6 | Not Listed        |

**United States****Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

**U.S. - OSHA - Specifically Regulated Chemicals**

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

**Environment****U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

**U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**

|          |           |  |
|----------|-----------|--|
| • Copper | 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 µm); 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 µm)   |
| • Nickel | 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 µm); 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 µm)<br>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) |

|  |           |   |
|--|-----------|---|
| • Zinc   | 7440-66-6 | µm); 1000 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 µm) |
| <b>U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities</b>  |           |   |
| • Copper   | 7440-50-8 | Not Listed  |
| • Nickel   | 7440-02-0 | Not Listed  |
| • Zinc   | 7440-66-6 | Not Listed  |
| <b>U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs</b>                                     |           |   |
| • Copper   | 7440-50-8 | Not Listed  |
| • Nickel   | 7440-02-0 | Not Listed  |
| • Zinc   | 7440-66-6 | Not Listed  |
| <b>U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs</b>  |           |   |
| • Copper   | 7440-50-8 | Not Listed  |
| • Nickel   | 7440-02-0 | Not Listed  |
| • Zinc   | 7440-66-6 | Not Listed  |
| <b>U.S. - CERCLA/SARA - Section 313 - Emission Reporting</b>   |           |   |
| • Copper   | 7440-50-8 | 1.0 % de minimis concentration  |
| • Nickel   | 7440-02-0 | 0.1 % de minimis concentration  |
| • Zinc   | 7440-66-6 | 1.0 % de minimis concentration (dust or fume only)  |
| <b>U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing</b>   |           |   |
| • Copper   | 7440-50-8 | Not Listed  |
| • Nickel   | 7440-02-0 | Not Listed  |
| • Zinc   | 7440-66-6 | Not Listed  |
| <b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Basis for Listing - Appendix VII</b>                     |           |   |
| • Copper   | 7440-50-8 | Not Listed  |
| • Nickel   | 7440-02-0 | Included in waste streams: F006, F039   |
| • Zinc   | 7440-66-6 | Not Listed  |
| <b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monitoring</b>                |           |   |
| • Copper   | 7440-50-8 | (total)   |
| • Nickel   | 7440-02-0 | (total)   |
| • Zinc   | 7440-66-6 | (total)   |
| <b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261</b> |           |   |
| • Copper   | 7440-50-8 | Not Listed  |
| • Nickel   | 7440-02-0 | hazardous constituent - no waste number   |
| • Zinc   | 7440-66-6 | Not Listed  |
| <b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</b>                      |           |   |
| • Copper   | 7440-50-8 | (total)   |
| • Nickel   | 7440-02-0 | (total)   |

|  |           |  |
|--|-----------|--|
| • Zinc   | 7440-66-6 | (total)  |
| <b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards</b> |           |  |
| • Copper   | 7440-50-8 | Not Listed   |
| • Nickel   | 7440-02-0 | 3.98 mg/L (wastewater); 11.0 mg/L TCLP (nonwastewater) |
| • Zinc   | 7440-66-6 | 2.61 mg/L (wastewater); 4.3 mg/L TCLP (nonwastewater)  |
| <b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - TSD Facilities Ground Water Monitoring</b>           |           |  |
| • Copper   | 7440-50-8 | (total)  |
| • Nickel   | 7440-02-0 | (total)  |
| • Zinc   | 7440-66-6 | (total)  |

## United States - California

### Environment

#### U.S. - California - Proposition 65 - Carcinogens List

|          |           |   |
|----------|-----------|---|
| • Copper | 7440-50-8 | Not Listed                                  |
| • Nickel | 7440-02-0 | carcinogen, initial date 10/1/89 (metallic) |
| • Zinc   | 7440-66-6 | Not Listed                                  |

#### U.S. - California - Proposition 65 - Developmental Toxicity

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

#### U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

#### U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

#### U.S. - California - Proposition 65 - Reproductive Toxicity - Female

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

#### U.S. - California - Proposition 65 - Reproductive Toxicity - Male

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 | Not Listed |
| • Zinc   | 7440-66-6 | Not Listed |

## United States - Pennsylvania

### Labor

#### U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

|          |           |                 |
|----------|-----------|-----------------|
| • Copper | 7440-50-8 | (dust and fume) |
| • Nickel | 7440-02-0 |                 |
| • Zinc   | 7440-66-6 |                 |

**U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances**

|          |           |            |
|----------|-----------|------------|
| • Copper | 7440-50-8 | Not Listed |
| • Nickel | 7440-02-0 |            |
| • Zinc   | 7440-66-6 | Not Listed |

## 15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

## 15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer.

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## Section 16 - Other Information

### Relevant Phrases (code & full text)

- H317 - May cause an allergic skin reaction
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H412 - Harmful to aquatic life with long lasting effects

### Revision Date

- 25/November/2015

### Preparation Date

- 10/August/2007

### Disclaimer/Statement of Liability

- The information contained in this Safety Data Sheet is provided to all individuals who are or will be exposed to this product through use, handling, storage or transport. Remington believes, yet makes no warranty, that all information contained in this document is current as of the date of publication.

### Key to abbreviations

NDA = No Data Available

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