

## Safety Data Sheet



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

#### 1.1 Product identifier

- Product Name** • **Rimfire Ammunition**
- Synonyms** • 22 Caliber Loaded Rounds; 22 Loaded Rounds; 22's; Rimfire Loaded Rounds
- SDS Number/Grade** • RFLOAD

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

- Relevant identified use(s)** • Hunting or target shooting

#### 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**
- Explosives 1.4 - H204
  - Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
  - Reproductive Toxicity 1A - H360Df
  - Hazardous to the aquatic environment Acute 1 - H400
  - Hazardous to the aquatic environment Chronic 1 - H410

#### 2.2 Label Elements

CLP

**DANGER**



- Hazard statements** • H204 - Fire or projection hazard  
 H335 - May cause respiratory irritation  
 H360Df - May damage the unborn child. Suspected of damaging fertility.  
 H400 - Very toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects

### Precautionary statements

- Prevention** • P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.  
 P240 - Ground and/or bond container and receiving equipment.  
 P250 - Do not subject to grinding/shock/friction.  
 P261 - Avoid breathing dust/fume.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P273 - Avoid release to the environment.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P281 - Use personal protective equipment as required.
- Response** • P370+P380 - In case of fire: Evacuate area.  
 P372 - Explosion risk in case of fire.  
 P373 - DO NOT fight fire when fire reaches explosives.  
 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.  
 P391 - Collect spillage.
- Storage/Disposal** • P401 - Store in accordance with local, regional, national, and/or international regulations.  
 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**
- Explosives 1.4  
 Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation  
 Reproductive Toxicity 1A  
 Hazards Not Otherwise Classified - Health Hazards - Metal Fume Fever

### 2.2 Label elements

**OSHA HCS 2012**

**DANGER**



- Hazard statements** • Fire or projection hazard  
 May cause respiratory irritation

May damage fertility or the unborn child.

## Precautionary statements

- Prevention**
- Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
  - Ground and/or bond container and receiving equipment.
  - Do not subject to grinding/shock/friction.
  - Avoid breathing dust/fume.
  - Use only outdoors or in a well-ventilated area.
  - Wear protective gloves/protective clothing/eye protection/face protection.

- Response**
- In case of fire: Evacuate area.
  - Explosion risk in case of fire.
  - DO NOT fight fire when fire reaches explosives.
  - Fight fire with normal precautions from a reasonable distance.
  - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  - Call a POISON CENTER or doctor/physician if you feel unwell.
  - IF exposed or concerned: Get medical advice/attention.

- Storage/Disposal**
- Store in accordance with local, regional, national, and/or international regulations.
  - 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 in accordance with Regulation (EC) No 1272/2008.

### 3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Lead	CAS:7439-92-1 EC Number:231-100-4	70% TO 78%	NDA	EU CLP: Carc. 2, H351 (Inhalation); Repr. 1A, H360 (Oral, Inhalation); STOT RE 1, H372 (CNS, GI / Oral,Inhalation); Aquatic Acute 1, H400; Aquatic Chronic 1, H410 OSHA HCS 2012: Comb. Dust; Carc. 2 (Inhalation); Repr. 1A (Oral, Inhalation); STOT RE 1 (CNS, GI / Oral,Inhalation)	NDA
Copper	CAS:7440-50-8 EC Number:231-159-6	13% TO 17%	NDA	EU CLP: STOT SE 3: Resp. Irrit., H335 OSHA HCS 2012: Comb. Dust; STOT SE 3: Resp. Irrit.	NDA
	CAS:7440-66-6				

Zinc	<b>EC Number:</b> 231-175-3 <b>EU Index:</b> 030-001-00-1	5% TO 7%	NDA	<b>EU CLP:</b> Not Classified <b>OSHA HCS 2012:</b> Comb. Dust; HNOC Health - Metal fume fever	NDA
Nitroglycerin	<b>CAS:</b> 55-63-0 <b>EC Number:</b> 200-240-8	0.3% TO 1.3%	Ingestion/Oral-Rat LD50 • 105 mg/kg Skin-Rabbit LD50 • >280 mg/kg	<b>EU CLP:</b> Annex VI, Table 3.1: Expl. 1.1, H201.; Acute Tox. 2 *, H330; Acute Tox. 1, H310; Acute Tox. 2 *, H300; STOT RE 2 *, H373; Aquatic Chronic 2, H411 <b>OSHA HCS 2012:</b> Expl. 1.1; Acute Tox. 3 (Orl); Eye Irrit. 2; Skin Sens. 1	NDA
Nitrate cellulose	<b>CAS:</b> 9004-70-0 <b>EU Index:</b> 603-037-00-6	< 1%	Ingestion/Oral-Rat LD50 • >5 g/kg	<b>EU CLP:</b> Annex VI, Table 3.1: Expl. 1.1, H201 <b>OSHA HCS 2012:</b> Expl. 1.1	NDA
Carbon	<b>CAS:</b> 7440-44-0 <b>EC Number:</b> 231-153-3	< 1%	NDA	<b>EU CLP:</b> Not Classified <b>OSHA HCS 2012:</b> Comb. Dust	NDA
Antimony	<b>CAS:</b> 7440-36-0 <b>EINECS:</b> 231-146-5	< 0.6%	Ingestion/Oral-Rat LD50 • 100 mg/kg	<b>EU CLP:</b> Acute Tox. 3, H301; Repr. 2, H361d (Dermal, Inhalation); STOT RE 2, H373 (Lungs / Inhalation); Aquatic Chronic 2, H411 <b>OSHA HCS 2012:</b> Comb. Dust; Acute Tox. 3 (Oral); Repr. 2 (Dermal, Inhalation); STOT RE 2 (Lungs / Inhalation); HNOC Health:Causes Antimony spots	NDA
Barium	<b>CAS:</b> 7440-39-3 <b>EINECS:</b> 231-149-1	< 0.5%	NDA	<b>EU CLP:</b> Not Classified <b>OSHA HCS 2012:</b> Comb. Dust	NDA
2,4,6-Trinitro-1,3-benzenediol lead salt	<b>CAS:</b> 15245-44-0 <b>EC Number:</b> 239-290-0	< 0.5%	NDA	<b>EU CLP:</b> Annex VI, Table 3.1: Expl. 1.1., H201; Repr. 1A, H360Df; Acute Tox. 4 *, H302; STOT RE 2 *, H373***; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 <b>OSHA HCS 2012:</b> Expl. 1.1; Repr. 1A; STOT RE 1 (Liver, Kidney, Blood, Nervous System)	NDA
Arsenic	<b>CAS:</b> 7440-38-2 <b>EC Number:</b> 231-148-6 <b>EU Index:</b> 033-001-00-X	< 0.2%	Ingestion/Oral-Rat LD50 • 763 mg/kg	<b>EU CLP:</b> Annex VI, Table 3.1: Acute Tox. 3 *, H331; Acute Tox. 3 *, H301; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 <b>OSHA HCS 2012:</b> Carc. 1A; Acute Tox 4 (oral); STOT RE 2 (Liver, Peripheral Nervous System, Bone Marrow)	NDA
Guanyl nitrosaminoguanilyltetrazene	<b>CAS:</b> 109-27-3 <b>EINECS:</b> 203-659-4	0.01% TO 0.03%	NDA	<b>EU CLP:</b> Community Workplace Exposure Limits <b>OSHA HCS 2012:</b> Community workplace exposure limit	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**

- May ignite if heated above 130°C.  
Will ignite when exposed to flame and high temperatures.  
Be cautious of low-energy fragments.  
Packages bearing the 1.4S label or packages containing material classified as 1.4S are designed or packaged in such a manner that when involved in a fire, may burn vigorously with localized detonations and projection of fragments.  
Effects are usually confined to immediate vicinity of packages.

**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. If fire threatens cargo area containing packages bearing the 1.4S label or packages containing material classified as 1.4S, consider isolating at least 15 meters (50 feet) in all directions. In fire situations move people out of line of site of the scene and away from windows. Use normal clean up procedures.

### 6.2 Environmental precautions

- No special environmental precautions necessary.

## 6.3 Methods and material for containment and cleaning up

### Containment/Clean-up Measures

- Use clean nonsparking tools to collect material. Carefully shovel or sweep up spilled material and place in suitable container.

## 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

- Handle with care. Do not strike or crush the rounds. Avoid breathing dust or fume. Use personal protective equipment as required. 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	Germany TRGS	NIOSH	OSHA
Arsenic (7440-38-2)	TWAs	0.01 mg/m <sup>3</sup> TWA	Not established	Not established	Not established	Not established
	Ceilings	Not established	Not established	Not established	0.002 mg/m <sup>3</sup> Ceiling (15 min)	Not established
Nitroglycerin (55-63-0)	Ceilings	Not established	0.01 ppm Peak; 0.094 mg/m <sup>3</sup> Peak	Not established	Not established	0.2 ppm Ceiling; 2 mg/m <sup>3</sup> Ceiling
	TWAs	0.05 ppm TWA	Not established	0.01 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1); 0.094 mg/m <sup>3</sup> TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1)	Not established	Not established
	STELs	Not established	Not established	Not established	0.1 mg/m <sup>3</sup> STEL	Not established
	MAKs	Not established	0.01 ppm TWA MAK; 0.094 mg/m <sup>3</sup> TWA MAK	Not established	Not established	Not established

Barium (7440-39-3)	TWAs	0.5 mg/m <sup>3</sup> TWA	Not established	Not established	Not established	Not established
Antimony	TWAs	0.5 mg/m <sup>3</sup> TWA	Not established	Not established	0.5 mg/m <sup>3</sup> TWA	0.5 mg/m <sup>3</sup> TWA
Zinc (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	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	Not established
Copper (7440-50-8)	TWAs	0.2 mg/m <sup>3</sup> TWA (fume)	Not established	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	Not established
	MAKs	Not established	0.01 mg/m <sup>3</sup> TWA MAK (including inorganic copper compounds, respirable fraction)	Not established	Not established	Not established
Lead	TWAs	0.05 mg/m <sup>3</sup> TWA	Not established	Not established	0.050 mg/m <sup>3</sup> TWA	50 µg/m <sup>3</sup> TWA

## Exposure Control Notations

### ACGIH

- Nitroglycerin (55-63-0): **Skin:** (Skin - potential significant contribution to overall exposure by the cutaneous route)
- Lead (7439-92-1): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Lead as Lead, inorganic compounds: **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Arsenic (7440-38-2): **Carcinogens:** (A1 - Confirmed Human Carcinogen)
- Barium (7440-39-3): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)

### Germany TRGS

- Nitroglycerin (55-63-0): **Skin:** (skin notation)
- Lead (7439-92-1): **Developmental Toxins:** (Category 1 (bioavailable, metal)) | **Reproductive Toxins:** (Category 3 (bioavailable, metal))

### 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))
- Nitroglycerin (55-63-0): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to) | **Skin:** (skin notation)
- Lead (7439-92-1): **Carcinogens:** (Category 2 (considered to be carcinogenic for man))
- Lead as Lead, inorganic compounds: **Carcinogens:** (Category 2 (considered to be carcinogenic for man, as Pb except lead arsenate and lead chromate))
- Arsenic (7440-38-2): **Carcinogens:** (Category 1 (causes cancer in man))
- Antimony (7440-36-0): **Carcinogens:** (Category 2 (considered to be carcinogenic for man))

## 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))
- Nitroglycerin (55-63-0): **TLV Basis - Critical Effects:** (vasodilation)
- Lead (7439-92-1): **BEIs:** (30 µg/100 ml Medium: blood Time: not critical Parameter: Lead (Note: Women of child bearing potential, whose blood Pb exceeds 10 µg/dL, are at risk of delivering a child with a blood Pb over the current Centers for Disease Control guideline of 10 µg/dL. If the blood Pb of such children remains elevated, they may be at increased risk of cognitive deficits. The blood Pb of these children should be closely monitored and appropriate steps should be taken to minimize the child's exposure to environmental lead.)) | **TLV Basis - Critical Effects:** (CNS and PNS impairment; hematologic effects)

- Lead as Lead, inorganic compounds: **BEIs:** (30 µg/100 ml Medium: blood Time: not critical Parameter: Lead (Note: Women of child bearing potential, whose blood Pb exceeds 10 µg/dL, are at risk of delivering a child with a blood Pb over the current Centers for Disease Control guideline of 10 µg/dL. If the blood Pb of such children remains elevated, they may be at increased risk of cognitive deficits. The blood Pb of these children should be closely monitored and appropriate steps should be taken to minimize the child's exposure to environmental lead.)) | **TLV Basis - Critical Effects:** (CNS and PNS impairment; hematologic effects)
- Arsenic (7440-38-2): **BEIs:** (35 µg As/L Medium: urine Time: end of workweek Parameter: Inorganic arsenic plus methylated metabolites (background)) | **TLV Basis - Critical Effects:** (lung cancer)
- Barium (7440-39-3): **TLV Basis - Critical Effects:** (eye, gastrointestinal and skin irritation; muscular stimulation)
- Antimony (7440-36-0): **TLV Basis - Critical Effects:** (skin and upper respiratory tract irritation)
- Antimony as Antimony compounds: **TLV Basis - Critical Effects:** (skin and upper respiratory tract irritation)

## 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
BEI = Biological Exposure Indices	STEL = Short Term Exposure Limits are based on 15-minute exposures
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

Material Description			
Physical Form	Solid	Appearance/Description	Brass, Copper and/or Gray solid with no odor.
Color	Brass, Copper and/or Gray colors.	Odor	Odorless
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	93.3 °C(199.94 °F)	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Negligible < 0.1 %
Solvent Solubility	Data lacking	Viscosity	Data lacking
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking



Evaporation Rate	Data lacking		
<b>Flammability</b>			
Flash Point	121 °C(249.8 °F)	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 (13% TO 17%)	7440-50-8	<p><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></p> <p><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></p> <p><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></p> <p><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></p>
Zinc (5% TO 7%)	7440-66-6	<p><b>Irritation:</b> Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation;</p> <p><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></p>

Nitroglycerin (0.3% TO 1.3%)	55-63-0	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 105 mg/kg; <i>Behavioral:Somnolence (general depressed activity);</i> Ingestion/Oral-Woman TDLo • 5 mg/kg; <i>Behavioral:General anesthetic; Cardiac:Other changes; Kidney, Ureter, and Bladder:Incontinence;</i> Skin-Rabbit LD50 • >280 mg/kg; <b>Irritation:</b> Eye-Rabbit • 0.1 mL; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; <b>Reproductive:</b> Skin-Rat TDLo • 3640 mg/kg (17-21D preg/21D post); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Effects on Newborn:Viability index (e.g., # alive at day 4 per # born alive);</i> <b>Tumorigen / Carcinogen:</b> Ingestion/Oral-Rat TDLo • 240170 mg/kg 2 Year(s)-Intermittent; <i>Tumorigenic:Equivocal tumorigenic agent by RTECS criteria; Liver:Tumors; Tumorigenic:Increased incidence of tumors in susceptible strains</i>
Nitrate cellulose (< 1%)	9004-70-0	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • >5 g/kg
Lead (70% TO 78%)	7439-92-1	<b>Acute Toxicity:</b> Ingestion/Oral-Woman TDLo • 450 mg/kg 6 Year(s); <i>Peripheral Nerve and Sensation:Flaccid paralysis without anesthesia (usually neuromuscular blockage); Behavioral:Hallucinations, distorted perceptions; Behavioral:Muscle weakness;</i> Inhalation-Human TCLo • 10 µg/m <sup>3</sup> ; <i>Gastrointestinal:Gastritis; Liver:Other changes;</i> <b>Multi-dose Toxicity:</b> Ingestion/Oral-Rat TDLo • 43.75 mg/kg 1 Week(s)-Continuous; <i>Blood:Other changes; Kidney, Ureter, and Bladder:Other changes in urine composition; Biochemical:Metabolism (intermediary):Porphyrin, including bile pigments;</i> Inhalation-Human TCLo • 0.011 mg/m <sup>3</sup> 26 Week(s)-Intermittent; <i>Brain and Coverings:Other degenerative changes;</i> Inhalation-Man TCLo • 0.03 mg/m <sup>3</sup> 5 Year(s)-Intermittent; <i>Endocrine:Androgenic;</i> Inhalation-Man TCLo • 0.109 mg/m <sup>3</sup> 5 Year(s)-Intermittent; <i>Reproductive Effects:Paternal Effects:Spermatogenesis;</i> <b>Mutagen:</b> Cytogenetic analysis • Ingestion/Oral-Monkey • 42 mg/kg 30 Week(s); Cytogenetic analysis • Inhalation-Rat • 23 µg/m <sup>3</sup> 16 Week(s); <b>Reproductive:</b> Ingestion/Oral-Rat TDLo • 790 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> Inhalation-Rat TCLo • 10 mg/m <sup>3</sup> 24 Hour(s)(1-21D preg); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Specific Developmental Abnormalities:Blood and lymphatic system</i>
Arsenic (< 0.2%)	7440-38-2	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 763 mg/kg; <i>Behavioral:Ataxia; Gastrointestinal:Hypermotility, diarrhea;</i> <b>Mutagen:</b> Sister chromatid exchange • Ingestion/Oral-Human • 0.211 mg/L 15 Year(s); Cytogenetic analysis • Ingestion/Oral-Mouse • 280 mg/kg 8 Week(s); <b>Reproductive:</b> Ingestion/Oral-Mouse TDLo • 187 mg/kg (8-18D preg); <i>Reproductive Effects:Specific Developmental Abnormalities:Hepatobiliary system;</i> Ingestion/Oral-Rat TDLo • 580 µg/kg (30W pre/1-20D preg); <i>Reproductive Effects:Specific Developmental Abnormalities:Musculoskeletal system;</i> Ingestion/Oral-Rat TDLo • 605 µg/kg (35W pre); <i>Reproductive Effects:Effects on Fertility:Pre-implantation mortality; Reproductive Effects:Effects on Fertility:Post-implantation mortality</i>
Barium (< 0.5%)	7440-39-3	<b>Multi-dose Toxicity:</b> Ingestion/Oral-Rat TDLo • 26622 mg/kg 69 Week(s)-Continuous; <i>Vascular:BP elevation not characterized in autonomic section; Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels:Cytochrome oxidases (including oxidative phosphorylation); Biochemical:Metabolism (intermediary):Xanthine, purine, or nucleotides including urate</i>
Antimony (< 0.6%)	7440-36-0	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 100 mg/kg; Inhalation-Human TCLo • 10 mg/m <sup>3</sup> 8 Hour(s); <i>Behavioral:Muscle weakness; Gastrointestinal:Nausea or vomiting; Nutritional and Gross Metabolic:Changes in Chemistry or Temperature:Body temperature increase</i>

GHS Properties	Classification
<b>Acute toxicity</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Skin corrosion/Irritation</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Serious eye damage/Irritation</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Skin sensitization</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking

<b>Respiratory sensitization</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Aspiration Hazard</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Carcinogenicity</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Germ Cell Mutagenicity</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Toxicity for Reproduction</b>	EU/CLP • Toxic to Reproduction 1A OSHA HCS 2012 • Toxic to Reproduction 1A
<b>STOT-SE</b>	EU/CLP • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
<b>STOT-RE</b>	EU/CLP • Data lacking 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)

- No data available

### Skin

#### Acute (Immediate)

- May cause allergic reaction (sensitization) in susceptible individuals.

#### 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 is not anticipated to be a likely route of exposure to this product.

#### 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. Chronic exposure to lead can cause kidney damage, anemia, reproductive effects, developmental effects and permanent nervous system damage in humans including changes in cognitive function.

### Carcinogenic Effects

- This product is not classified a carcinogen by IARC, OSHA, NTP or EPA. However, there are some components that are carcinogens according to these agencies.

<b>Carcinogenic Effects</b>			
	<b>CAS</b>	<b>IARC</b>	<b>NTP</b>
Arsenic	7440-38-2	Group 1-Carcinogenic	Known Human Carcinogen
2,4,6-Trinitro-1,3-benzenediol lead salt as Lead Compounds	NDA	Not Listed	Reasonably Anticipated to be Human Carcinogen
Lead	7439-92-1	Group 2A-Probable Carcinogen	Reasonably Anticipated to be Human Carcinogen

### Reproductive Effects

- Repeated and prolonged exposure may cause reproductive effects.

## 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

LD = Lethal Dose

TC = Toxic Concentration

TD = Toxic Dose

## Section 12 - Ecological Information

### 12.1 Toxicity

	CAS	
Rimfire Ammunition	NDA	<p><b>Aquatic Toxicity-Fish:</b> 96 Hour(s) LC50 <i>Osteichthyes (Bony Fishes)</i> 0.0051 mg/L Comments: Copper (7440-50-8)            7 Day(s) NOEC <i>Salmo trutta (Brown Trout)</i> 0.0075 mg/L Comments: Copper (7440-50-8)            96 Hour(s) LC50 <i>Cyprinus carpio (Common Carp)</i> 0.4 mg/L Comments: Lead (7439-92-1)            72 Hour(s) EC50 <i>Cyprinus carpio (Common Carp)</i> 0.00003 mg/L Comments: Lead (7439-92-1)            96 Hour(s) LC50 <i>Cyprinodon variegatus (Sheepshead Minnow)</i> 6.2 mg/L Comments: Antimony (7440-36-0)            4 Day(s) LC50 <i>Bluegill</i> 0.87-3.25 mg/L Comments: Nitroglycerin (55-63-0)</p> <p><b>Aquatic Toxicity-Crustacea:</b> 2 Day(s) EC50 <i>Water flea</i> 38-55 mg/L Comments: Nitroglycerin (55-63-0)            7 Day(s) NOEC <i>Daphnia magna (Water Flea)</i> 3.9 mg/L Comments: Antimony (7440-36-0)            28 Day(s) NOEC <i>Hyalella azteca (Scud)</i> 0.006 mg/L Comments: Lead (7439-92-1)            21 Day(s) NOEC <i>Daphnia magna (Water Flea)</i> 0.002 mg/L Comments: Copper (7440-50-8)            48 Hour(s) EC50 <i>Ceriodaphnia dubia (Water Flea)</i> 0.001 mg/L Comments: Copper (7440-50-8)</p> <p><b>Aquatic Toxicity-Algae and Other Aquatic Plant(s):</b> 48 Hour(s) EC50 <i>Chlorella sp. (Green Algae)</i> 0.0011 mg/L Comments: Copper (7440-50-8)            7 Day(s) NOEC <i>Laminaria saccharina (Tangleweed, Brown Algae)</i> 0.01 mg/L Comments: Copper (7440-50-8)            72 Hour(s) EC50 <i>Chaetoceros sp. (Diatom)</i> 0.105 mg/L Comments: Lead (7439-92-1)            4 Day(s) EC50 <i>Green Algae</i> 0.1-1.3 mg/L Comments: Nitroglycerin (55-63-0)</p>

- Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

### 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	Cartridges, small arms	ORM-D	NDA	NDA
	UN0012	Cartridges, small arms	1.4S	II	NDA
TDG	UN0012	CARTRIDGES, SMALL ARMS	1.4S	II	NDA
IMO/IMDG	UN0012	CARTRIDGES, SMALL ARMS	1.4S	NDA	NDA
IATA/ICAO	UN0012	Cartridges, small arms	1.4S	NDA	NDA

**14.6 Special precautions for user** • None known.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** • Not relevant.

## 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
2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Yes	Yes	No
Antimony	7440-36-0	Yes	Yes	Yes
Arsenic	7440-38-2	Yes	Yes	Yes
Barium	7440-39-3	Yes	Yes	Yes
Carbon	7440-44-0	No	No	No
Copper	7440-50-8	Yes	Yes	Yes
Guanyl nitrosaminoguanilyltetrazene	109-27-3	No	No	No
Lead	7439-92-1	Yes	Yes	Yes
Nitrate cellulose	9004-70-0	Yes	Yes	Yes
Nitroglycerin	55-63-0	Yes	Yes	Yes
Zinc	7440-66-6	Yes	Yes	Yes

Inventory				
Component	CAS	EU EINECS	EU ELNICS	TSCA
2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Yes	No	Yes
Antimony	7440-36-0	Yes	No	Yes
Arsenic	7440-38-2	Yes	No	Yes
Barium	7440-39-3	Yes	No	Yes
Carbon	7440-44-0	Yes	No	Yes

Copper	7440-50-8	Yes	No	Yes
Guanyl nitrosaminoguanilyltetrazene	109-27-3	Yes	No	Yes
Lead	7439-92-1	Yes	No	Yes
Nitrate cellulose	9004-70-0	No	No	Yes
Nitroglycerin	55-63-0	Yes	No	Yes
Zinc	7440-66-6	Yes	No	Yes

## Europe

### Other

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

• Nitroglycerin	55-63-0	T+; R26/27/28 E; R3 R33 N; R51-53
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Xn; R20/22 E; R3 R33 N; R50-53 Repr.Cat.1; R61 Repr.Cat.3; R62
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	T; R23/25 N; R50-53
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	E; R3

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

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

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

• Nitroglycerin	55-63-0	E T+ N R:3-26/27/28-33-51/53 S:(1/2)-33-35-36/37-45-61
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	E T N R:61-3-20/22-33-50/53-62 S:53-45-60-61
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed

• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	T N R:23/25-50/53 S:(1/2)-20/21-28-45-60-61
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	E R:3 S:(2)-35

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

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	E, 1
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	T

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

• Nitroglycerin	55-63-0	S:(1/2)-33-35-36/37-45-61
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	S:53-45-60-61
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	S:(1/2)-20/21-28-45-60-61
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	S:(2)-35

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

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed

• Nitrate cellulose	9004-70-0	2500 lb TQ (concentration >12.6% Nitrogen)
<b>U.S. - OSHA - Specifically Regulated Chemicals</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	30 µg/m <sup>3</sup> Action Level (See 29 CFR 1910.1025); 50 µg/m <sup>3</sup> TWA (See 29 CFR 1910.1025)
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

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

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

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

• Nitroglycerin	55-63-0	10 lb final RQ; 4.54 kg final RQ
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• 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)
• Copper as Copper compounds		Not Listed 10 lb final RQ (no reporting of releases of this hazardous



• Lead	7439-92-1	substance is required if the diameter of the pieces of the solid metal released is >100 µm); 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 µm)
• Antimony	7440-36-0	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)
• Arsenic	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 µm); 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 µm)
• Zinc	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 pieces of the solid metal released is >100 µm)
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed

• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - CERCLA/SARA - Section 313 - Emission Reporting</b>		
• Nitroglycerin	55-63-0	1.0 % de minimis concentration
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	1.0 % de minimis concentration
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	1.0 % de minimis concentration
• Copper as Copper compounds		1.0 % de minimis concentration (This category does not include CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only hydrogen and/or chlorine and/or bromine.)
• Lead	7439-92-1	0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze)

• Antimony	7440-36-0	1.0 % de minimis concentration
• Arsenic	7440-38-2	0.1 % de minimis concentration
• Zinc	7440-66-6	1.0 % de minimis concentration (dust or fume only)
• Zinc as Zinc compounds		1.0 % de minimis concentration (listed under Chemical Category N982)
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	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)
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Basis for Listing - Appendix VII</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Included in waste stream: F039
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Included in waste streams: F035, F037, F038, F039, K002, K003, K005, K046, K048, K049, K051, K052, K061, K062, K069, K086, K100, K176
• Antimony	7440-36-0	Included in waste streams: F039, K021, K161, K177
• Arsenic	7440-38-2	Included in waste streams: F032, F034, F035, F039, K031, K060, K084, K101, K102, K161, K171, K172, K176
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monitoring</b>		
• Nitroglycerin	55-63-0	Not Listed

• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	(total)
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	(total)
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	(total)
• Antimony	7440-36-0	(total)
• Arsenic	7440-38-2	(total)
• Zinc	7440-66-6	(total)
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - D Series Wastes - Max Conc of Contaminants for the Tox Characteristic**

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	100.0 mg/L regulatory level
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	5.0 mg/L regulatory level
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	5.0 mg/L regulatory level
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261**

• Nitroglycerin	55-63-0	waste number P081
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	hazardous constituent - no waste number
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	hazardous constituent - no waste number
• Antimony	7440-36-0	hazardous constituent - no waste number
• Arsenic	7440-38-2	hazardous constituent - no waste number
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents**

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	(total)
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	(total)
• Copper as Copper compounds		Not Listed

• Lead	7439-92-1	(total)
• Antimony	7440-36-0	(total)
• Arsenic	7440-38-2	(total)
• Zinc	7440-66-6	(total)
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - P Series Wastes - Acutely Toxic Wastes**

• Nitroglycerin	55-63-0	waste number P081 (Reactive waste)
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards**

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	1.2 mg/L (wastewater); 21 mg/L TCLP (nonwastewater)
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	0.69 mg/L (wastewater); 0.75 mg/L TCLP (nonwastewater)
• Antimony	7440-36-0	1.9 mg/L (wastewater); 1.15 mg/L TCLP (nonwastewater)
• Arsenic	7440-38-2	1.4 mg/L (wastewater); 5.0 mg/L TCLP (nonwastewater)
• Zinc	7440-66-6	2.61 mg/L (wastewater); 4.3 mg/L TCLP (nonwastewater)
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - TSD Facilities Ground Water Monitoring**

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	(total)
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	(total)
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	(total)
• Antimony	7440-36-0	(total)
• Arsenic	7440-38-2	(total)
• Zinc	7440-66-6	(total)

• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - Waste Minimization Priority Chemicals**

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

**United States - California****Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	carcinogen, initial date 10/1/92
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

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

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	developmental toxicity, initial date 2/27/87
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

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

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed

• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	0.5 µg/day MADL
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	15 µg/day NSRL (oral)
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	0.06 µg/day NSRL (inhalation); 10 µg/day NSRL (except inhalation)
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	female reproductive toxicity, initial date 2/27/87
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed
<b>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</b>		
• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	male reproductive toxicity, initial date 2/27/87

• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	Not Listed
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	Not Listed

## United States - Pennsylvania

### Labor

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

• Nitroglycerin	55-63-0	
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	(dust and fume)
• Copper as Copper compounds		
• Lead	7439-92-1	
• Antimony	7440-36-0	
• Arsenic	7440-38-2	(inorganic)
• Zinc	7440-66-6	
• Zinc as Zinc compounds		
• Nitrate cellulose	9004-70-0	Not Listed

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

• Nitroglycerin	55-63-0	Not Listed
• 2,4,6-Trinitro-1,3-benzenediol lead salt	15245-44-0	Not Listed
• Guanyl nitrosaminoguanilyltetrazene	109-27-3	Not Listed
• Barium	7440-39-3	Not Listed
• Carbon	7440-44-0	Not Listed
• Copper	7440-50-8	Not Listed
• Copper as Copper compounds		Not Listed
• Lead	7439-92-1	Not Listed
• Antimony	7440-36-0	Not Listed
• Arsenic	7440-38-2	
• Zinc	7440-66-6	Not Listed
• Zinc as Zinc compounds		Not Listed
• Nitrate cellulose	9004-70-0	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, birth defects or other reproductive harm.

## Section 16 - Other Information

### Relevant Phrases (code & full text)

- H201 - Explosive; mass explosion hazard
- H300 - Fatal if swallowed
- H301 - Toxic if swallowed
- H302 - Harmful if swallowed



H310 - Fatal in contact with skin  
H330 - Fatal if inhaled  
H331 - Toxic if inhaled  
H351 - Suspected of causing cancer.  
H360 - May damage fertility or the unborn child.  
H361d - Suspected of damaging the unborn child.  
H372 - Causes damage to organs through prolonged or repeated exposure.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H411 - Toxic to aquatic life with long lasting effects

**Revision Date**

- 29/March/2016

**Preparation Date**

- 06/August/2010

**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