

## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Centerfire Rifle and Pistol ammunition (all calibers) - lead free bullet

### 1.2. Intended Use of the Product

Small Arms Ammunition

### 1.3. Name, Address, and Telephone of the Responsible Party

#### Company

Federal Cartridge Company

900 Ehlen Drive

Anoka, MN 55303

T 1-800-635-7656

dangerous.goods@vistaoutdoor.com

### 1.4. Emergency Telephone Number

**Emergency Number** : 1-800-424-9300 (Inside US), 01-703-527-3887 (Outside US) - (CHEMTREC, Day or Night)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

#### GHS-US/CA Classification

The explosive classification below only applies to US 29 CFR 1910.1200 (HCS/HazCom 2012). The explosive classification is excluded from Canada Hazardous Products Regulations (HPR, SOR/2015-17), it is regulated under the Canada Explosives Act (R.S.C., 1985, c. E-17)

Physical Hazards:	Explosives	Division 1.4S
Health Hazards:	Acute Toxicity (inhalation)	Category 3
	Skin Sensitization	Category 1A
	Carcinogenicity	Category 2
	Reproductive Toxicity	Category 1A
	Specific Target Organ Toxicity, Repeat Exposure	Category 1
	Specific Target Organ Toxicity, Repeat Exposure	Category 2

### 2.2. Label Elements

#### GHS-US/CA Labeling

Any labeling elements (pictograms, signal word, hazard, and precautionary statements) related to explosive classifications apply to the OSHA Hazard Communication Standard (HCS, 29 CFR 1910.1200) only and are excluded from Canada's Hazardous Products Regulations (HPR, SOR/2015-17)

#### Hazard Pictograms (GHS-US/CA)



#### Signal Word (GHS-US/CA)

: DANGER

#### Hazard Statements (GHS-US/CA)

: Fire or projection hazard. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs (central nervous system, blood, kidney, reproductive system) through prolonged or repeated exposure.

#### Precautionary Statements (GHS-US/CA)

: Prevention:

Do not handle until all safety precautions have been read and understood. Keep away from heat. No smoking. Do not subject to shock. Wear eye protection. Do not breathe fumes. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

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### Response:

In case of fire: Evacuate area. Fight fire with normal precautions from a reasonable distance. If exposed, concerned or you feel unwell: Call a doctor or get medical attention.

Storage: Store in accordance with applicable fire codes. Keep only in original packaging.

Disposal: Dispose of ammunition in accordance with local regulations.

Supplemental information: The hazardous components of this product are encased and are not biologically available.

Therefore, some health hazards do not apply to the overall product. Decomposition products, including lead, are released during the firing of cartridges. Use only outdoors or in a well-ventilated area.

### 2.3. Other Hazards

**Other Hazards Not Contributing to the Classification:** Lead and barium are toxic metals that may be released during the firing of primers. Care should be taken in the cleaning of range facilities to minimize the exposure potential to lead and barium. Persons engaged in these activities should wear protective clothing with an appropriate respirator. Range operators should consult OSHA 1910.1025 for details pertaining to the handling of lead in the work environment. Severe lead intoxication has been associated in the past with sterility, spontaneous abortion, and stillbirth. Exposure to lead can aggravate pre-existing anemia, cardiovascular and respiratory diseases and conditions related to the gastrointestinal, reproductive, renal (kidney), and central nervous systems.

**Accidental Injury From Fired Cartridge:** Fired ammunition can create serious injury, possibly both entrance and exit wounds. To avoid serious injury, use ammunition only in good condition and originally chambered for a particular caliber. Always keep the barrel free of any obstruction. If the gun fails to fire, a delayed firing may occur, or the gun may fire upon being opened. Keep gun muzzle pointed in a safe direction. Wait 30 seconds. Avoid exposure to breach. Carefully unload. A fired bullet has an extremely long range and can cause serious injury or death. Always be sure of the backstop, and practice safe muzzle control at all times. Avoid firing at surfaces.

### 2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product Identifier	% *
Copper	(CAS No) 7440-50-8	53.31 - 94.115
Nitrocellulose**	(CAS No) 9004-70-0	5.4 - 24
Zinc	(CAS No) 7440-66-6	0.045 - 12.23
Nitroglycerin**	(CAS No) 55-63-0	0.4 - 10
Tin	(CAS No) 7440-31-5	< 9.6
Nickel***	(CAS No) 7440-02-0	0.03 - 0.38
1,3-Benzenediol, 2,4,6-trinitro-, lead salt**	(CAS No) 15245-44-0	0.01 - 0.04
Barium**	(CAS No) 7440-39-3	0.01 - 0.04

\*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

\*\*The hazardous components of this product are encased within a shell and are unlikely to be released under normal handling conditions. Therefore, the health and environmental hazards associated with nitrocellulose and nitroglycerin do not apply to the product overall.

\*\*\*It is suspected that nickel causes cancer and damage to the respiratory tract via inhalation. Because this product is in massive form, it is unlikely that respiration is a potential route of exposure. Therefore, the hazards usually associated with nickel do not apply to this product.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of First-aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

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**Inhalation:** First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Get immediate medical advice/attention.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

**Ingestion:** Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor.

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

**General:** May cause an allergic skin reaction. Projectiles from fired ammunition can cause puncture wounds.

**Inhalation:** Not expected to be a primary route of exposure.

**Skin Contact:** May cause an allergic skin reaction.

**Eye Contact:** None expected under normal conditions of use.

**Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** None expected under normal conditions of use.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 Extinguishing Media

**Suitable Extinguishing Media:** Straight water stream; Water fog. Class A foam.

**Unsuitable Extinguishing Media:** None

### 5.2 Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** Explosive. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package. Do not expose to heat, or ignition sources as this could cause an explosion. If heated above 200 °C (392 °F) may explode.

**Reactivity:** Hazardous reactions are unlikely to occur under normal circumstances.

### 5.3 Advice for Firefighters

**Precautionary Measures Fire:** Do not breathe fumes from fires or vapors from decomposition. Exercise caution when fighting any chemical fire. If product is unconfined, there is a greater risk for injury from projectiles.

**Firefighting Instructions:** In case of fire: Evacuate area. Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Self-contained breathing apparatus (SCBA) and full structural protective clothing should be worn for any fire or exposure to heat. This includes, but is not limited to, protective coat, pants, boots, firefighting gloves, SCBA with facepiece and helmet, protective hood and eye protection. (NFPA 1971)

**Hazardous Combustion Products:** Oxides of Barium, Lead, Antimony, Aluminum, Magnesium, Nitrogen, Carbon, and Sulfur.

#### **Specific Methods:**

Perform a risk assessment before engaging in offensive firefighting operations. Unless life safety risk or significant risk of property loss is present, consider taking defensive posture, protecting exposures and maintaining safe distance until material is consumed. For further information see the video "Ammunition and the Fire Fighter" by the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI).

Evacuate personnel to a safe area according to pre-determined public protection zones. Refer to pre-incident response and structural plans to determine potential for involvement of other hazardous materials. Direct water streams at product to reduce projectile hazard from exploding cartridges. After the fire is controlled, heated products can still re-ignite and project pieces of metal posing risk to fire-fighters. Full PPE including respiratory protection should be worn during salvage, overhaul and fire investigation. Do not disturb the involved area until the fire is completely extinguished and the product and packaging are allowed to cool down to ambient temperatures.

#### **Reference to Other Sections**

Refer to section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Avoid all unnecessary exposure.

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### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protective equipment (PPE) including eye and hand protection.

**Emergency Procedures:** Evacuate unnecessary personnel. Evacuate danger area.

### 6.1.2. For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Eliminate ignition sources. In the event individual cartridges have ruptured or otherwise been compromised - see Safety Data Sheets for small arms primers, and smokeless powder for handling and response details.

### 6.2. Environmental Precautions

Avoid release to the environment.

### 6.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** Contain and collect as any solid. Use only non-sparking tools.

**Methods for Cleaning Up:** Eliminate all ignition sources. Clean up spills immediately, return cartridges to factory packaging (if possible) and dispose of waste safely. In the event individual cartridges have ruptured or otherwise been compromised - see Safety Data Sheets for small arms primers, and smokeless powder for handling and response details.

### 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Projectiles from fired ammunition can cause puncture wounds. Avoid striking the primer of unchambered cartridges. Remove ammunition from service if any of the following conditions have occurred: corrosion, physical damage, exposure to oil or spray type lubricants.

**Precautions for Safe Handling:** Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use only outdoors or in a well-ventilated area. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Keep away from sources of ignition, no smoking. Handle empty containers with care because they may still present a hazard. Do not subject to grinding, shock, or friction. Use appropriate personal protective equipment (PPE).

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep/Store away from heat sources, ignition sources, and incompatible materials. Keep container closed when not in use.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Corrosive liquids. Alkalis. Ammonia. Acetylene. Phosphorus. Peroxides. Oils and lubricants.

**Special Rules on Packaging:** Keep only in the original container.

### 7.3. Specific End Use(s)

Small Arms Ammunition

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Copper (7440-50-8)		
Mexico	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
Mexico	OEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (fume) 2 mg/m <sup>3</sup> (dust and mist)
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mist) 0.1 mg/m <sup>3</sup> (fume)

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<b>USA IDLH</b>	US IDLH (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (dust, fume and mist)
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mist) 0.2 mg/m <sup>3</sup> (fume)
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (dust and mist) 0.6 mg/m <sup>3</sup> (fume)
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (dust and mist) 0.6 mg/m <sup>3</sup> (fume)
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	0.6 mg/m <sup>3</sup> (fume) 3 mg/m <sup>3</sup> (dust and mist)
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 2 mg/m <sup>3</sup> (dust and mist)
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)

<b>Nickel (7440-02-0)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>USA ACGIH</b>	ACGIH TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable particulate matter)
<b>USA ACGIH</b>	ACGIH chemical category	Not Suspected as a Human Carcinogen
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.015 mg/m <sup>3</sup>
<b>USA IDLH</b>	US IDLH (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable particulate matter)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable particulate matter)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable particulate matter)
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (inhalable fraction)
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (inhalable fraction)
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable)
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable particulate matter)
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (inhalable fraction)

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Saskatchewan	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
Yukon	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Yukon	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Barium (7440-39-3)</b>		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
Alberta	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
British Columbia	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Manitoba	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Newfoundland & Labrador	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Nova Scotia	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Nunavut	OEL STEL (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
Nunavut	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Northwest Territories	OEL STEL (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
Northwest Territories	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Ontario	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Prince Edward Island	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Saskatchewan	OEL STEL (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
Saskatchewan	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Nitroglycerin (55-63-0)</b>		
Mexico	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Mexico	OEL TWA (ppm)	0.05 ppm
Mexico	OEL STEL (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Mexico	OEL STEL (ppm)	0.1 ppm
USA ACGIH	ACGIH TWA (ppm)	0.05 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
USA OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (Ceiling) (ppm)	0.2 ppm
USA OSHA	Limit value category (OSHA)	prevent or reduce skin absorption
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	75 mg/m <sup>3</sup>
Alberta	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	0.05 ppm
British Columbia	OEL TWA (ppm)	0.05 ppm
Manitoba	OEL TWA (ppm)	0.05 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	0.46 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	0.05 ppm
Newfoundland & Labrador	OEL TWA (ppm)	0.05 ppm
Nova Scotia	OEL TWA (ppm)	0.05 ppm
Nunavut	OEL STEL (ppm)	0.15 ppm
Nunavut	OEL TWA (ppm)	0.05 ppm
Northwest Territories	OEL STEL (ppm)	0.15 ppm
Northwest Territories	OEL TWA (ppm)	0.05 ppm
Ontario	OEL TWA (ppm)	0.05 ppm
Prince Edward Island	OEL TWA (ppm)	0.05 ppm
Québec	PLAFOND (mg/m <sup>3</sup> )	1.86 mg/m <sup>3</sup>
Québec	PLAFOND (ppm)	0.2 ppm
Saskatchewan	OEL STEL (ppm)	0.15 ppm
Saskatchewan	OEL TWA (ppm)	0.05 ppm

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Yukon	OEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Yukon	OEL STEL (ppm)	0.2 ppm
Yukon	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Yukon	OEL TWA (ppm)	0.2 ppm
<b>Tin (7440-31-5)</b>		
Mexico	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Mexico	OEL STEL (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup>
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Alberta	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
British Columbia	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Manitoba	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Newfoundland & Labrador	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Nova Scotia	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Nunavut	OEL STEL (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> (metal)
Nunavut	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (metal)
Northwest Territories	OEL STEL (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> (metal)
Northwest Territories	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (metal)
Ontario	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Prince Edward Island	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Québec	VEMP (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Saskatchewan	OEL STEL (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup>
Saskatchewan	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>

## 8.2. Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Face shield.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** In case of projectile hazard: Safety glasses.

**Skin and Body Protection:** Wash contaminated clothing before reuse.

**Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

**Environmental Exposure Controls:** Avoid release to the environment.

**Consumer Exposure Controls:** If noise levels exceed OSHA limits, while firing this product, use hearing protection in accordance with OSHA's Hearing Conservation Standard, 29 CFR 1910.95

**Other Information:** When using, do not eat, drink or smoke

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Brass, or nickel plated brass
Odor	: None

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According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

<b>Odor Threshold</b>	: Not available
<b>pH</b>	: Not available
<b>Evaporation Rate</b>	: Not available
<b>Melting Point</b>	: Not available
<b>Freezing Point</b>	: Not available
<b>Boiling Point</b>	: Not available
<b>Flash Point</b>	: Not available
<b>Auto-ignition Temperature</b>	: Not available
<b>Decomposition Temperature</b>	: Not available
<b>Flammability (solid, gas)</b>	: Not available
<b>Lower Flammable Limit</b>	: Not available
<b>Upper Flammable Limit</b>	: Not available
<b>Vapor Pressure</b>	: Not available
<b>Relative Vapor Density at 20°C</b>	: Not available
<b>Relative Density</b>	: Not available
<b>Specific Gravity</b>	: Not available
<b>Solubility</b>	: Not available
<b>Partition Coefficient: N-Octanol/Water</b>	: Not available
<b>Viscosity</b>	: Not available
<b>Explosive Properties</b>	: Explosives, Division 1.4 - Explosives (with no significant blast hazard)

## SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions are unlikely to occur under normal circumstances.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7). However, because of the design of ammunition and its components, partial detonation upon impact or intense heat may occur. Mass detonation will not occur.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Sparks, heat, open flame and other sources of ignition. Incompatible materials.
- 10.5. Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Corrosive liquids. Alkalis. Ammonia. Acetylene. Phosphorus. Peroxides. Oils and Lubricants.
- 10.6. Hazardous Decomposition Products:** Metal oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects - Product

- Acute Toxicity (Oral):** Not classified
- Acute Toxicity (Dermal):** Not classified
- Acute Toxicity (Inhalation):** Not classified
- LD50 and LC50 Data:**

Lead Free Bullet Ammunition	
<b>ATE US/CA (oral)</b>	49.87 mg/kg body weight
<b>ATE US/CA (dermal)</b>	50.00 mg/kg body weight
<b>ATE US/CA (dust, mist)</b>	0.50 mg/l/4h

- Skin Corrosion/Irritation:** Not classified
- Eye Damage/Irritation:** Not classified
- Respiratory or Skin Sensitization:** May cause an allergic skin reaction.
- Germ Cell Mutagenicity:** Not classified
- Carcinogenicity:** Suspected of causing cancer (Inhalation).
- Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs (circulatory system) through prolonged or repeated exposure (Inhalation).
- Reproductive Toxicity:** Not classified
- Specific Target Organ Toxicity (Single Exposure):** Not classified
- Aspiration Hazard:** Not classified



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**Symptoms/Injuries After Inhalation:** Not expected to be a primary route of exposure

**Symptoms/Injuries After Skin Contact:** May cause an allergic skin reaction.

**Symptoms/Injuries After Eye Contact:** May cause slight irritation to eyes.

**Symptoms/Injuries After Ingestion:** This material can cause harmful or adverse effects if ingested.

**Chronic Symptoms:** Suspected of causing cancer (Inhalation). May cause damage to organs (circulatory system) through prolonged or repeated exposure (Inhalation).

### 11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

<b>Nickel (7440-02-0)</b>	
LD50 Oral Rat	> 9000 mg/kg
<b>1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)</b>	
ATE US/CA (oral)	500.00 mg/kg body weight
ATE US/CA (dust, mist)	1.50 mg/l/4h
<b>Barium (7440-39-3)</b>	
LD50 Oral Rat	132 mg/kg
<b>Nitroglycerin (55-63-0)</b>	
LD50 Oral Rat	100 mg/kg
LD50 Dermal Rabbit	> 280 mg/kg
ATE US/CA (oral)	5.00 mg/kg body weight
ATE US/CA (dermal)	5.00 mg/kg body weight
ATE US/CA (dust, mist)	0.05 mg/l/4h
<b>Nitrocellulose (9004-70-0)</b>	
LD50 Oral Rat	5000 mg/kg
<b>Nickel (7440-02-0)</b>	
IARC Group	2B
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
<b>1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)</b>	
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General:** Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

<b>Nickel (7440-02-0)</b>	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	15.3 mg/l
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)</b>	
EC50 Daphnia 1	7 mg/l
<b>Barium (7440-39-3)</b>	
EC50 Daphnia 1	14.5 mg/l
<b>Nitroglycerin (55-63-0)</b>	
LC50 Fish 1	0.87 - 3.25 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 1	46 - 55 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	0.87 - 2.21 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	38 - 55 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
ErC50 (algae)	0.4 mg/l
NOEC Chronic Fish	0.03 mg/l

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<b>Nitrocellulose (9004-70-0)</b>	
ErC50 (algae)	579 mg/l

## 12.2. Persistence and Degradability

<b>Lead Free Bullet Ammunition</b>	
<b>Persistence and Degradability</b>	May cause long-term adverse effects in the environment.

<b>Copper (7440-50-8)</b>	
<b>Persistence and Degradability</b>	Not readily biodegradable.

## 12.3. Bioaccumulative Potential

<b>Lead Free Bullet Ammunition</b>	
<b>Bioaccumulative Potential</b>	Not established.

**12.4. Mobility in Soil** Not available

## 12.5. Other Adverse Effects

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations

**Additional Information:** Container may remain hazardous when empty. Continue to observe all precautions. Hazardous waste due to potential risk of explosion.

**Ecology - Waste Materials:** Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

## SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

### 14.1. In Accordance with DOT

**Proper Shipping Name** : CARTRIDGES, SMALL ARMS  
**Hazard Class** : 1.4S  
**Identification Number** : UN0012  
**Label Codes** : 1.4S  
**ERG Number** : 114



#### 14.1.1 Domestic Ground packaged per 49CFR173.63

**Proper Shipping Name** : None  
**Hazard Class** : Limited Quantity  
**Identification Number** : None  
**Label Codes** : None  
**Packing Group** : None



### 14.2. In Accordance with IMDG

**Proper Shipping Name** : CARTRIDGES, SMALL ARMS  
**Hazard Class** : 1.4S  
**Identification Number** : UN0012  
**Label Codes** : 1.4S  
**EmS-No. (Fire)** : F-B  
**EmS-No. (Spillage)** : S-X



### 14.3. In Accordance with IATA

**Proper Shipping Name** : CARTRIDGES, SMALL ARMS  
**Identification Number** : 1.4S  
**Hazard Class** : UN0012  
**Label Codes** : 1.4S  
**ERG Code (IATA)** : 3L



### 14.4. In Accordance with TDG

**Proper Shipping Name** : CARTRIDGES, SMALL ARMS

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According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

**Hazard Class** : 1.4S  
**Identification Number** : UN0012  
**Label Codes** : 1.4S  
**Packing Group** : II



## SECTION 15: REGULATORY INFORMATION

### 15.1. US Federal Regulations

<b>Lead Free Bullet Ammunition</b>	
<b>SARA Section 311/312 Hazard Classes</b>	Sudden release of pressure hazard Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
<b>Copper (7440-50-8)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	5000 lb 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>SARA Section 313 - Emission Reporting</b>	1.0 %
<b>Nickel (7440-02-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	100 lb (only applicable if particles are < 100 µm)
<b>SARA Section 313 - Emission Reporting</b>	0.1 %
<b>Zinc (7440-66-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	454 kg 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>SARA Section 313 - Emission Reporting</b>	1.0 % (dust or fume only)
<b>1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Barium (7440-39-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>SARA Section 313 - Emission Reporting</b>	1.0 %
<b>Nitroglycerin (55-63-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	10 lb
<b>SARA Section 313 - Emission Reporting</b>	1.0 %
<b>Nitrocellulose (9004-70-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>EPA TSCA Regulatory Flag</b>	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C))
<b>Tin (7440-31-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>15.2. US State Regulations</b>	
<b>Nickel (7440-02-0)</b>	

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<b>U.S. - California - Proposition 65 - Carcinogens List</b>	<b>WARNING:</b> This product contains chemicals known to the State of California to cause cancer.
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<b>Copper (7440-50-8)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

<b>Nickel (7440-02-0)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List

<b>Zinc (7440-66-6)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

<b>1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List

<b>Barium (7440-39-3)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

<b>Nitroglycerin (55-63-0)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

<b>Nitrocellulose (9004-70-0)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

<b>Tin (7440-31-5)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

### 15.1. Canadian Regulations

<b>Copper (7440-50-8)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>Nickel (7440-02-0)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>Zinc (7440-66-6)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>1,3-Benzenediol, 2,4,6-trinitro-, lead salt (15245-44-0)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>Barium (7440-39-3)</b>
Listed on the Canadian DSL (Domestic Substances List)

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### Nitroglycerin (55-63-0)

Listed on the Canadian DSL (Domestic Substances List)

### Nitrocellulose (9004-70-0)

Listed on the Canadian DSL (Domestic Substances List)

### Tin (7440-31-5)

Listed on the Canadian DSL (Domestic Substances List)

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Date of Preparation or Latest Revision** : 03/16/2017

### Other Information

: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR).

### Alt. product labeling

: This product may also additionally contain the following label provided in accordance with various State, Federal, and International regulations.



**WARNING:** Fire or projection hazard. Keep away from heat – no smoking. Do not subject to shock. Wear eye protection. Fight fire with normal precautions from a reasonable distance. Store and dispose of in accordance with local, national and international regulations.

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

NA GHS SDS 2015 (Can, US, Mex)