



MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet has been prepared in compliance with Federal OSHA Hazard Communication Standard 29 CFR 1910.1200, ANSI Z400.1-1993 and the ISO Safety Data Sheet Standard. This product may be considered to be a hazardous chemical under 29 CFR 1910.1200. This information is required to be disclosed for safety in the workplace. This MSDS is applicable only to the product identified herein when used properly.

NOTE: Refer to Section XVII for List of Acronyms

I. PRODUCT IDENTIFICATION

Product: Cartridges, Small Arms
Trade Name: **PRECISION AMMUNITION CENTERFIRE RIFLE,
PISTOL & REVOLVER AMMUNITION**

CAS Registry No.:	N/A	<u>HMIS Rating</u>
CAS Name:	N/A	Health: 1
Formula:	N/A	Flammability: 0
Molecular Weight:	N/A	Reactivity: 1
Grade:	N/A	

IN EVENT OF EMERGENCY
(Spill, Leak, Fire, Exposure, Accident)
CALL CHEMTREC DAY OR NIGHT
(800) 424-9300
In Washington, D.C. 483-7616
Outside Continental USA (202) 483-7616

II. HAZARDOUS COMPONENT INFORMATION

Centerfire Pistol & Revolver Ammunition is comprised of the following four (4) components. The hazardous chemicals contained in each are listed. The percent by weight of the hazardous ingredients in Centerfire Pistol & Revolver Ammunition are listed in the table below.

- | | |
|---------------------------|--|
| 1. Projectile | Lead, Copper, Zinc, Antimony |
| 2. Brass Shellcase | Copper, Zinc, Nickel |
| 3. Propellant | Nitrocellulose, Nitroglycerin, Diburyl Phthalate, Diphenylamine,
Dinitrotoluene, Graphite |
| 4. Primer | Copper, Zinc, Lead Styphnate, Antimony, Barium, Tetrazene |

Hazardous Ingredients	Percent by Weight	CAS Number	Exposure Limits (PEL)
Copper	16-58%	7440-50-8	None established
Zinc	6-35%	7440-66-6	TWA (fume) 0.1 mg/m ³ TWA (dust) 1.0 mg/m ³
Lead	14-75%	7439-92-1	TWA 0.05 mg/m ³
Antimony	0-2%	7440-36-0	TWA 0.5 mg/m ³
Arsenic	0-0.5%	7440-38-2	TWA 0.5 mg/m ³
Barium	Less than 0.5%	7440-39-3	TWA 0.5 mg/m ³
Nitroglycerin	0-18%	55-63-0	TWA CL 0.2 ppm (skin) STEL 0.1 mg/m ³ (skin)
Dibutyl Phthalate	0-2.3%	84-74-2	TWA 5 mg/m ³
Diphenylamine	0-2.3%	122-39-4	TWA 10 mg/m ³
Nickel	Less than 1%	7440-02-0	TWA Soluble Compounds: 0.1 mg/m ³ TWA Insoluble Compounds: 1.0 mg/m ³
Graphite	Less than 1%	7440-44-0	(Natural)TWA 2.5 mg/m ³ (Synthetic) Respirable Fraction: 5 mg/m ³
Lead Styphnate Lead Trinitroresorcinate	Less than 0.5%	63918-97-8	None established
Nitrocellulose Cellulose Tetranitrate	Less than 1%	9004-70-0	None established
Tetrazene	Less than 0.1%	109-27-3	None established
2,4-Dinitrotoluene	0-5.4%	121-14-2	TWA 1.5 mg/m ³

III. HAZARDS IDENTIFICATION

Emergency Overview: Accidental fire may cause low-energy fragments to be emitted thus causing potential eye injury.

Potential Human Health Effects:

Skin Contact: May cause allergic reaction (sensitization) in susceptible individuals.

Eye Contact: Lead dust and fumes can irritate the eyes causing redness and discharge.

Inhalation: Inhalation of lead 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.

Ingestion/Absorption: Ingestion may cause severe headache, nausea, vomiting, Abdominal pain, fatigue, diarrhea, trembling, ringing in ear and salivation.

Carcinogenicity Information: This product is not classified a carcinogen by IARC, OSHA, NTP or EPA. Lead and arsenic are classified a carcinogen by IARC.

IV. FIRST AID MEASURES

- Skin Contact: Wash affected area thoroughly with soap and water. Remove Contaminated clothing. Wash clothing thoroughly prior to reuse. Discard any contaminated leather items (i.e. shoes, etc.)
- Eye Contact: If wearing contacts, immediately remove contact lenses. Hold eyelids apart and flush eyes thoroughly with water for at least 15 minutes. Obtain medical attention immediately.
- Inhalation: Immediately remove to fresh air. Administer artificial respiration, if necessary. If breathing is difficult, administer oxygen. Obtain medical attention immediately.
- Ingestion/Absorption: If conscious, drink large amounts of water. Induce vomiting. Immediately contact a physician or Poison Control Center. **Never** induce vomiting or give anything by mouth to an unconscious person.

V. FIRE HAZARDS

- Flammable Properties: May ignite if heated to 130°C. Will ignite when exposed to flame and high temperatures. Be cautious of fragments.
- Extinguishing Media: Flood fire with water to fight fire and cool shells. If no water is available, use carbon dioxide, dry chemical or earth.
- Fire-Fighting Instructions: Evacuate area immediately. Deluge area with water. Wear full firefighting protective gear including face shield or SCBA to protect from fragments.

VI. ACCIDENTAL RELEASE MEASURES

- Safeguards: Remove from all sources of ignition.
- Spill Cleanup: Use non-sparking equipment to clean up spill. If disposal is necessary, refer to XIII. DISPOSAL CONSIDERATIONS.

VII. HANDLING AND STORAGE

- Personnel Handling: Handle with care. Do not strike or crush the rounds.
- Storage: Store in original containers in a cool, dry, well-ventilated area from all sources of ignition. Do not subject to mechanical shock. Keep out of reach of children. This product **must not be stored** with acids, strong oxidizers or caustics.

VIII. PERSONAL PROTECTION/EXPOSURE CONTROLS

Engineering Controls:	N/A
Personal Protective Equipment:	Safety glasses recommended when handling or firing Rounds. Hearing protection recommended when firing rounds. Use of NIOSH/MSHA-approved respirator required when exposed to fumes, and/or dust in an enclosed or poorly-ventilated area.
Exposure Guidelines:	Keep product away from sources of accidental ignition.
Exposure Limits:	Exposure limits listed with each hazardous chemical.

IX. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Appearance: Projectile: cylindrical; grayish, silvery color
Case: cylindrical; silvery color

Form:	Solid	Evaporation Rate:	N/A
Color:	Variable	Melting Point:	N/A
Odor:	None	Solubility in Water:	N/A
Boiling Point:	N/A	pH:	N/A
Specific Gravity:	N/A		
Vapor Density:	N/A		

X. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal use conditions. Will not react with water.

Other Hazards:

Incompatibility: Incompatible with acids, strong oxidizers and caustics.
Polymerization: Will not occur.

Conditions to Avoid: Flames, sparks, percussion, shock, static, high temperatures (266°F or 130°C)

XI. TOXICOLOGICAL INFORMATION

Oral LD 50:	No available date
Dermal LD 50:	No available date
Inhalation LC 50:	No available date
Irritation:	Not a skin or eye irritant

XII. ECOLOGICAL INFORMATION

Aquatic Toxicity:

Barium to Stickleback: 400 mg/l

Barium Nitrate o Stickleback: 760 mg/l

Environmental Impact:

When used and disposed or properly, there is no known environmental impact.

XIII. DISPOSAL CONSIDERATIONS

Dispose of as required by local, state and federal laws and regulations.

EPA Hazardous Waste Code: D008 (lead)

XIV. TRANSPORTATION INFORMATION

SHIPPING INFORMATION

Proper Shipping Name:	Cartridges, Small Arms
Hazard Class:	ORM-D
UN/NA No:	N/A
Packing Group:	N/A
Shipping Label:	None required
Special Information:	May be reclassified internationally as:
	Hazard Class: 1.4S
	UN/NA No.: UN0012
	Packing Group: II
	Shipping Label: 1.4S label

XV. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA Inventory Status: Included on list.

This product contains a toxic chemical or chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

XVI. OTHER INFORMATION

NFPA Rating: Not established

HAZARD CLASSIFICATION

Chronic Health:	Headache, nausea, weakness
Acute Health:	Anemia,
Fire Hazard:	0 (per HMIS Rating)
Pressure Hazard:	Sudden release of pressure
Reactivity Hazard:	1 (per HMIS Rating)

NPCA-HMIS Ratings:

Health: 2
Flammability: 0
Reactivity: 1

References:

Code of Federal Regulations, Monthly Summary: CFR 1910.1200(g)
and Appendix E (B.), Regulations Management Corporation, Bloomington, Indiana,
July 1, 1994.

Hazardous Chemical Desk Reference: Third Edition, Richard J. Lewis, Sr., Van
Nostrand Reinhold, Copyright 1993.

American National Standards Institute, Z400.1-1993

International Standards Organization Safety Data Sheet Standard.

XVII. LIST OF ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists.
AIHA WEEL	American Industrial Hygienists Association-Workplace Environmental Exposure Level
ANSI	American National Standard Institute
BEI	Biological Exposure Indexes
CAS	Chemical Abstract Service
CFR	Code of Federal Regulations
CL	Ceiling Limits (not to be exceeded)
DSL	Domestic Substances List
EPA	Environmental Protection Agency
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ISO	International Standards Organization
MITI	Ministry of International Trade and Industry (Japan)
MSHA	Mine Safety and Health Appliance
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTA	National Transportation Agency (Canada)
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
ORM	Other Regulated Materials
PEL	Permissible Exposure Limit (OSHA)
SCBA	Self-Contained Breathing Apparatus
STEL	Short-Term Exposure Limit
TLV	Threshold Limit Values (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UN/NA	United Nations/North American (identification number)
SARA	Superfund Amendments and Reauthorization Act
RCRA	Resource Conservation and Recovery Act

For additional information, please contact:

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