



Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe, Japanese Standard JIS Z 7250:2000, and EU REACH

Regulations

1. PRODUCT AND COMPANY IDENTIFICATION

Product CARTRIDGES - CENTERFIRE Name:

CAS Number: Mixture – Metal Alloy

Synonyms: Centerfire Rifle Calibers: 204 Ruger, 218 Bee, 22 Hornet, 220 Swift, 222 Remington, 22-250

Remington, 5.56mm, 223 Remington, 223 Winchester Super Short Magnum, 225 Winchester, 243 Winchester, 6mm Remington, 243 Winchester Super Short Magnum, 25 Winchester Super Short Magnum, 25-06 Remington, 250 Savage, 256 Winchester Magnum, 25-20 Winchester, 25-35 Winchester, 257 Roberts +P, 6.5 Creedmoor, 264 Winchester Magnum, 6.5x55mm Swedish, 270 Winchester, 270 Winchester Short Magnum, 280 Remington, 284 Winchester, 7mm-08 Remington, 7mm Winchester Short Magnum, 7mm Remington Magnum, 7mm Mauser 8x57JS, 8mm Mauser 8x57IS, 7mm Shooting Times Westerner, 7.62x39mm, 30 Carbine, 30-30 Winchester, 30-06 Springfield, 30-40 Krag, 300 Blackout, 300 Holland & Holland Magnum, 300 Winchester Short Magnum, 300 Winchester Magnum, 300 Savage, 303 British, 307 Winchester, 308 Winchester, 7.62x51mm NATO, 7.62x54R, 9.3x62mm, 8x57mmJRS, 7x64mm, 9.3x74mmR32 Winchester Special, 32-20 Winchester, 32-40 Winchester, 8mm Mauser, 325 Winchester Short Magnum, 338 Winchester Magnum, 338 Lapua Magnum, 348 Winchester, 35 Remington, 356 Winchester, 357 Magnum, 358 Winchester, 375 Winchester, 375 Holland & Holland Magnum, 38-40 Winchester, 38-55 Winchester, 41 Remington Magnum, 416 Remington Magnum, 416 Rigby, 44 Remington Magnum, 44-40 Winchester, 45-70 Government, 450 Bushmaster, 458 Winchester Magnum, 450

Bushmaster, 350 Legend, 6.5 Creedmoor.

Product Use: Centerfire Rifle and Pistol/Revolver Loaded Ammunition **U.N. Number:** UN 0012 / UN 0339

U.N. Dangerous Goods Explosive, 1.4S / 1.4C

Class

Manufacturer: FSAAP

Manufacturers' Address: 5730 N 6, Fort Smith, AR 7204 www.fsaap.com

EmergencyUS/Canada: 1-800-255-3924TelephoneOutside US/Canada: 800-255-3924

Number:

SDS Control Group: 631-930-5314 (Technical Information Only)

Revision No.: 3

Page 3 of 10

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: EXPLOSIVE. KEEP AWAY FROM HEAT. DO NOT SUBJECT TO MECHANICAL SHOCK. PARTICLES FROM FIRING MAY BE HARMFUL IF INHALED. DO NOT TAKE INTERNALLY.

US DOT SYMBOLS

CANADA (WHMIS) SYMBOLS

GHS HAZARD SYMBOLS



This Product is not subject to WHMISClass 6

Explosive



Page 4 of 10

GHS Classifications: Carcinogenicity Category 1A

Reproductive Toxicity Category 1A

Explosive Division 1.4 STOT RE Category 1

Aquatic Environment, Chronic II

<u>Signal Word:</u> Danger

Hazard Statements: H204: Fire or projection hazardH350:

May cause cancer

H360: May damage fertility or the unborn childH362: May

cause harm to breast-fed children

H372: Causes damage to nervous system, kidney, and hematopoietic system through prolonged or

repeated exposure

H411: Toxic to aquatic life with long lasting effects

Target organs: Nervous, renal and hematopoietic systems

Precautionary Statements: P102: Keep out of reach of children

P210: Keep away from heat/sparks/open flame/hot surfacesP250:

Do not subject to shock/friction P260: Do not breathe fumes

P264: Wash hands thoroughly after handling

P270: Do not eat, drink or smoke when using this product P271: Use only outdoors or in a well-ventilated area P273:

Avoid release to the environment

P280: Wear /protective clothing/eye protection/hearing protection

P370+P380: In case of fire: Evacuate area

P374: Fight fire with normal precautions from a reasonable distance

P410: Store in accordance with local regulations

P501: Dispose of contents in accordance with local regulations

GHS Pictograms: Explosive; Pictogram: exploding bomb

Specific Target Organ Toxicity; Pictogram Code: GHS08

Environment; Pictogram Code: GHS09

EU Classifications:

Hazard Symbols E, T, N

Risk Phrases R2: Risk of explosion by shock, friction, fire or other sources of ignitionR45

(Category 1): May cause cancer

R48: Danger of serious damage to health by prolonged exposure

R60/61 (Category 1): May impair fertility or cause harm to the unborn childR63:

Possible risk of harm to the unborn child R64: May cause harm to breast-fed children

R51/53: Toxic to aquatic organisms and many cause long-term adverse effects in the aquatic

environment

Safety Phrases S2: Keep out of reach of childrenS15:

Keep away from heat

S20/21: When using do not eat, drink or smokeS23: Do

not breathe fumes

S39: Wear eye/face protection

S43: In case of fire, use Class A equipmentS51:

Use only in well-ventilated areas S61: Avoid release to the environment

Page 5 of 10

Health Hazards or Risks From Exposure

This product is composed of a finished metal alloy cartridge which contains the various components completely sealed within. Therefore, under normal handling of this product, no exposure to any harmful materials will occur. When the ammunition is fired, a small amount of particles may be generated which may be slightly irritating to the eyes and the respiratory tract. The particles may contain trace amounts of these harmful substances:

<u>Lead:</u> Ingestion of large amounts of lead can cause abdominal pain, constipation, cramps, nausea and/or vomiting. 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. Occupational exposure to lead is associated with lung and stomach cancer. Lead is classified as a probable human carcinogen.

Nitroglycerin: Will produce dilation of blood vessels and drop in blood pressure which may affect the heart. It has also been shown to cause methemoglobinemia (cyanosis).

<u>Copper:</u> Inhalation of high concentrations of metallic copper dusts or fumes may cause nasal irritation and/or nausea, vomiting and stomach pain.

It is unlikely that the amount of particles that someone would be exposed to from firing a loaded round would be sufficient to cause any of these effects.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% By Weight	CAS Number	EINECS/ ELINCS #
Lead	0.5 - 70	7439-92-1	231-100-4
Copper	0.5 - 60	7440-50-8	231-159-6
Iron	0 – 60	7439-89-6	231-096-4
Zinc	0.1- 20	7440-66-6	231-175-3
Nitrocellulose	1 - 20	9004-70-0	Not listed
Nitroglycerin	0.2 - 2	55-63-0	200-240-8
Lead Styphnate	0 -1	15245-44-0	239-290-0
Antimony	0 – 1.5	744036-0	231-146-5
Tin	0 – 30	7440-31-5	231-141-8
Polyethylene	0 – 3	9002-88-4	Not listed

4. FIRST AID MEASURES

<u>Eye Contact:</u> Immediately flush out fume or particles with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation develops, call a physician at once.

Skin Contact: Wash skin with plenty of soap and water.

Inhalation: If symptoms of lung irritation occur (coughing, wheezing or breathing difficulty), remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep affected person warm and at rest. Get medical attention.

Ingestion: If ingested, immediately call a physician.

Medical Conditions Aggravated By Exposure:

There are no medical conditions known to be aggravated by exposure to this product in its solid form. Exposure to lead can aggravate anemia, cardiovascular and respiratory disease.

Recommendations To Physcians:

Remove from exposure, if possible, and treat symptoms

Page 6 of 10

5. FIRE FIGHTING MEASURES

PROPERTY	VALUE	PROPERTY	
Explosive	Yes	Flammable	Not applicable
Combustible	Not applicable	Pyrophoric	No
Flash Point (°C):	Not applicable	Burning Rate of Material:	Not applicable
Lower Explosive Limit:	Not applicable	Autoignition Temp.:	No data
Upper Explosive Limit:	Not applicable	Flammability Classification: (defined by 29 CFR 1910.1200)	Explosive

Unusal Fire and Explosion Hazards:

Possible projection hazard.

Special Firefighting Procedures:

Do not fight fire when fire reaches cargo. Cargo may explode.

Firefighters must wear self-contained breathing apparatus (SCBA) and full protective equipment. Structural firefighters' protective clothing will only provide limited protection.

Isolate materials not yet involved in the fire. Move containers from fire area if possible; otherwise, cool with carefully applied water spray.

Prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas, if practical.

NFPA RATING SYSTEM

Flammability Health Other

HMIS RATING SYSTEM

HEALT	H HAZAF	RD (BLUE)		0*	
FLAMMABILITY HAZARD (RED)					
PHYSICAL HAZARD (YELLOW)					
PROTECTIVE EQUIPMENT					
PROTE	CTIVE E	QUIPMENT			
PROTE EYES	PPE CODE	RESPIRATORY	HEARIN	G	

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

6. ACCIDENTAL RELEASE MEASURES

$FOR \ ALL \ TRANSPORTATION \ ACCIDENTS, \ CALL \ CHEMTREC \ AT \ 800-424-9300.$

Spill Response:

A spill of this material will normally not require emergency response team capabilities. If, however, a large spill occurs, call 1-888-289-1911 for technical assistance.

Accidental Release Procedures:

Spills of this material should be handled carefully. Do not subject materials to mechanical shock. Collect material and place in a designated, labeled waste container. See Section 13 for waste disposal.

7. HANDLING AND STORAGE

<u>Precautions for Safe Handling</u>: Use appropriate personal protective equipment (see Section 8). Workers should wash

thoroughly after handling. Eating, drinking and smoking should be prohibited in areas where

this material is handled and stored.

Conditions for Safe Storage: Store in accordance with local regulations. Store in original containers in a cool,

dry location away from Acids, Class A & B explosives, strong oxidizers, and caustics. Avoid

mechanical impact or shock and electrical discharge.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

CAS#	CHEMICAL NAME	ACGIH TLV	OSHA PEL	INTERNATIONAL OELS
7439-92-1	Lead	0.05 mg/m ³	0.05 mg/m³(total dust)	EU: 0.15 mg/m³ (inhalable aerosol) Finland, Japan, Sweden, Switzerland: 0.1 mg/m³
7440-50-8	Copper	0.2 mg/m³ (fume), 1 mg/m³ (dusts and mists)	0.1 mg/m³ (fume) 1 mg/m³ (dusts and mists)	Austria, Belgium, Canada: 0.2 mg/m³ (fumes), 1 mg/m³ (dusts) Denmark: 1.0 mg/m³ (dust and powder) Germany (MAK): 0.1 mg/m³ (fume), 1 mg/m³ (dusts and mists)
7439-89-6	Iron	None established	None established	None established
7440-66-6	Zinc	None established	None established	None established
9004-70-0	Nitrocellulose	None established	None established	None established
55-63-0	Nitroglycerin	0.05 ppm (0.46 mg/m ³) Skin	Ceiling – 0.2 ppm(2 mg/m³) Skin	Denmark: 0.02 ppm (0.2 mg/m³) Norway, Sweden: 0.03 ppm (0.3 mg/m³) Austria, Belgium, Germany, The Netherlands, Poland, Switzerland: 0.05 ppm (0.47 mg/m³), skin Finland, France: 0.1 ppm (0.9 mg/m³), skin U.K.: 0.2 ppm (2 mg/m³), skin
55-63-0	Lead Styphnate	None Established	None Established	None Established
7440-36-0	Antimony	0.5 mg/m ³	0.5 mg/m ³	Austria, Belgium, Denmark, France, Finland, Germany, Hungary, Netherlands, Norway, Poland, Sweden, UK: 0.5 mg/m³
7440-31-5	Tin	2 mg/m³	2 mg/m ³	U.K. (LTEL): 5 mg/m ³ Austria & Germany (MAK), Belgium, Finland, Denmark, The Netherlands, Poland, Switzerland: 2 mg/m ³ Hungary, Norway: 1 mg/m ³

Engineering Controls: Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated.

Otherwise, use general exhaust ventilation.

Respiratory Protection: Not normally needed. Maintain airborne contaminant concentrations below guidelines listed above.

Use an appropriate approved air-purifying respirator equipped with HEPA cartridges/canisters where there is the potential for exceeding

established occupational exposure limits.

Eye/Face Protection:Use safety glasses.Hand Protection:Not normally neededSkin Protection:Not normally needed.

Hearing Protection: Not normally needed. During firing use hearing protection.

General Hygiene: Do not eat, drink, or smoke while using this product. Wash hands thoroughly after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PROPERTY	I	PROPERTY	VALUE
Appearance:	Cylindrical brass cartridge	Physical State:	Solid
Odor:	I	Odor Threshold:	None
Boiling Point (°F):	Not applicable	Melting point:	Not applicable
Vapor Pressure (mm Hg):	Not applicable	Freezing point:	Not applicable
Vapor Density(air = 1):	Not applicable	Bulk Density	Not applicable
Specific gravity (g/cc):	Not applicable	Viscosity (cps):	Not applicable
pH:	Not applicable	Decomposition Temperature:	Not applicable
Solubility in Water (20 ℃):	Insoluble	Evaporation Rate:	Not applicable
Volatiles, Percent by volume:	Not applicable	Octanol/water partition coefficient:	Not applicable

10. STABILITY AND REACTIVITY

<u>Stability:</u>
Possibility of Hazardous Reactions:

Incompatible Materials:

Hazardous Decomposition Products:

Tiazardous Decomposition Froducts

dust/fume

Conditions to Avoid:

cartridges may detonate if case is punctured.

Stable under normal temperatures and pressure.

Hazardous polymerization will not occur

Acids, Class A & B explosives, strong oxidizers, and caustics

Nitrogen oxides, carbon monoxide, lead oxides, carbon dioxide, lead

Contact with incompatible materials. Physical damage to containers;

11. TOXICOLOGICAL INFORMATION

<u>Potential Routes of Entry:</u> Inhalation, Skin, and by Ingestion.

The physical nature of this product makes absorption from any route unlikely. A small amount of inhalable particles may be created when cartridge is fired.

Effects Of Acute Exposure:

	SELECTED COMPONENTS							
PRODUCT		Lead	Antimony	Copper	Nitroglycerin	Nitrocellulose	Tin	Zinc
Inhalation LC ₅₀	Particles generated from firing may be slightly toxic	No data	No data	No data	No data	No data	No data	No data
Skin Contact LD ₅₀	Skin absorption unlikely	No data	No data	375 mg/kg, sc (rabbit)	> 280 mg/kg (rabbit)	No data	No data	No data
Ingestion LD ₅₀	Ingestion unlikely	763 mg/kg (rat)	No data	3.5 mg/kg, ip (mouse)	105 mg/kg (rat)	> 5 g/kg (rat)	No data	No data
Irritation	Particles generated from firing may be slightly irritating to the eyes	Not irritating	No data	Respiratory irritant	Mild eye and skin irritant	No data	Respiratory Irritant	Eye irritant
Sensitization	Sensitization to this Product has not been reported	No data	No data	No data	No data	No data	No data	No data

Other Adverse Effects:

<u>Target Organ Toxicity:</u> No reported target organ toxicity from this product. Lead has caused nervous

system, kidney and hematopoietic system damage in humans and laboratory animals.

Reproductive Toxicity: This product is not known or reported to cause reproductive effects. Lead has been shown

to reduce male reproductive function in humans and laboratory animals.

Teratogenicity (Birth Defects): This product is not known or reported to cause developmental toxicity. Lead has been

shown to affect fetal development including birth defects.

Mutagenicity: This product is not known or reported to be mutagenic. Lead has been shown to be

mutagenic in several in vitro assays.

<u>Carcinogenicity:</u> IARC and US EPA list lead and lead compounds as probable human carcinogens (Group 2A)

based on sufficient evidence from animal studies and limited evidence from human studies (epidemiology). NTP classifies lead and lead compounds as reasonably anticipated to be

human carcinogens.

Page 10 of 10

12. ECOLOGICAL INFORMATION

Environmental Effects:

PRODUCT: Product has not been tested for environmental properties. Lead shot has been shown to be toxic to aquatic species.

COMPONENTS:

Copper: Copper concentrations from 0.1 to 1.0 mg/l have been found to be not toxic for

most fish. However, concentrations of 0.015 to 3.0 mg/l have been reported as toxic, particularly in soft water to many kinds of fish,

crustacea, mollusks, insects, and plankton.

LC 50 (48 hrs.) to bluegill is reported to be 2-5 mg/l. Lead is toxic to

waterfowl. Nitrocellulose: LC₅₀ > 1000 mg/l to fish, invertebrates, and algae.

LC₅₀ = 1.228 mg/l to Bluegill, (96 hour, static) Nitroglycerin:

The following concentrations of zinc have been reported as lethal to fish: 0.13 Zinc:

mg/l, for 12 – 24 hours to Rainbow trout fingerlings; 1.9 – 3.6 mg/l, 6 hr TLM (soft water, 30°C) to Bluegill Sunfish; 4 mg/l, 3 days (hard

water) to Rainbow trout; 1 mg/l, 24 hours (soft water) to Sticklebacks.

The presence of copper appears to have a synergistic effect on the toxicity of zinc towards fish.

Environmental Fate:

MOBILITY: Dissolved lead from degraded bullets may migrate through soil.

PERSISTANCE/DEGRADABILITY: Not biodegradable. Bullets may fragment and decompose in soil leading to accumulation

of lead

BIOACCUMULATION: No data

13. DISPOSAL CONSIDERATIONS

Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding the treatment, storage and disposal for hazardous and nonhazardous wastes.

14. TRANSPORT INFORMATION

Regulatory Information for US DOT, IATA, IMO, and ADR:

Cartridges, small arms (other **Proper Shipping Name:**

than blanks)

Hazard Class Number and Description: Explosive 1.4S

UN Identification Number: UN 0012

Packing Group: **PGII**

Label Not Required for ground DOT Label(s) Required:

shipment.

None of the ingredients are classified

by the DOT as a Marine Pollutant (as Marine Pollutant:

defined by 49 CFR 172.101, Appendix

B)

Additional Information:

North American Emergency Response Guidebook Number: 114 Most Current Version is 2012

U.S. DEPARTMENT OF TRANSPORTATION SHIPPING REGULATIONS: This product is classified as dangerous goods under 49 CFR 172.101. Note: May be reclassified domestically as an ORM-D or Limited Quantity if packaged in accordance with 49 CFR 173.63.

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is classified as Dangerous Goods (If packaged appropriately this product may ship as a Limited Quantity).

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): This product is classified as Dangerous Goods.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is classified as Dangerous Goods (If packaged appropriately this product may ship as a Limited Quantity).

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is classified by the United Nations Economic Commission for Europe to be dangerous goods. (If packaged appropriately this product may ship as a Limited Quantity).

15. REGULATORY INFORMATION

US FEDERAL

TSCA	The comp	The components of this product are listed on the Toxic Substance Control Act inventory.						
CERCLA:		Copper, R.Q.* = 5000 lbs.; Zinc, R.Q. = 1000 lbs.; Lead, R.Q. = 10 lbs.; Nitroglycerin, R.Q. = 10 lbs (No reporting is required if diameter of the pieces of metal is equal to or exceeds 100 micrometers (0.004 inches).						
SARA 313:	Copper, L	Copper, Lead and Lead compounds, Nitroglycerin, Zinc (fume or dust)						
SARA 311/312:	<u>Health</u> :	Health:Acute – NoFire:NoReactivity:NoneRelease of Pressure:YesChronic - Yes						
SARA 302 EHS List:	None of the	None of the components of this product are listed.						

^{*}RQ = Reportable Quantity

STATE RIGHT-TO-KNOW STATUS

Component	California	New Jersey	Pennsylvania	Massachusetts	Michigan
Lead	X	Х	X	Х	X
Copper	Not listed	X	X	X	X
Iron	Not listed	Not listed	Not listed	Not listed	Not listed
Zinc	Not listed	Х	Not listed	Х	X
Nitrocellulose	Not listed	Х	X	Х	Not listed
Nitroglycerin	Not listed	X	X	Х	Not listed
Lead Styphnate	X	Not Listed	Not Listed	Х	Not Listed
Antimony	Not listed	X	X	Х	X
Tin	Not listed	Not listed	X	X	Not listed

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65)

Warning! This product contains det ec t ab I e am o un t s o f a c hem ic a I known to the State of California to cause cancer and/ orb i r t h def ec t s or other reproductive harm.

GHS CLASSIFICATION

Carcinogenicity Category 1A Reproductive Toxicity Category 1A

Explosive Division 1.4 STOT RE Category 1

Aquatic Environment, Chronic II

EUROPEAN REGULATIONS

All chemical components listed on EINECS Lead metal is included on the REACH Candidate List of Substances of Very High Concern for Authorization (Toxic to Reproduction, Category 1A; Article 57c)

Page 11 of

Restrictions on use: this substance is subject to REACH restrictions according to:

Annex XVII, Entry No. 30 (regarding supply to the general public)

• REACH Annex XVII, Entry No. 63.

Hazard Classification

Danger Symbols:

R2, R45, R48, R51/53, R60, R61, Risk Phrases: R63Safety Phrases:

S2, S15, S20/21, S22, S39, S51,

S61

German WGK Classification: Not known.

CANADIAN REGULATIONS

DSL/NDSL Inventory: The components of this product are on the

DSLIDL: Lead, Copper

CEPA PRIORITIES LIST: None of the components of this product are on the CEPA First Priorities Substances List.

WHMIS: This product is not subject to WHMIS. It is regulated as a Class 6 Explosive in

Canada.

JAPANESE REGULATIONS

Existing National Inventory of Chemical Substances (ENCS): The components of this product are Listed Japanese

MITI Status: Product components are not listed as Class I or II Specified Chemical Substances

OTHER INTERNATIONAL CHEMICAL INVENTORIES

Swiss Giftliste List of Toxic Substances: All Components Listed Australian Inventory (AICS): All Components

Listed

Asia - Pac Inventory: All Components Listed Korean Existing Chemicals List (ECL): All Components Listed Philippines Inventory of Chemicals (PICCS): All Components

Listed

16. OTHER INFORMATION

REVISIONS: DATE: 7/1/2022 PREPARED BY: **FSAAP**

OTHER: Additional information available from: www.fsaap.com

<u>NOTICE:</u> THE INFORMATION IN THIS SDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. FSAAP BELIEVES THIS INFORMATION TO BE RELIABLE AND CURRENT AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS.