

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 Name:** **PERCUSSION CAPS**  
**CAS Number:** Mixture – Metal Alloy and Initiating Explosive  
**Synonyms:** Primer Caps, Musket Caps  
**Product Use:** Muzzleloading Firearms  
**U.N. Number:** UN0378  
**U.N. Dangerous Goods Class** 1.4B  
**Manufacturer:** Olin Corporation – Winchester Division, Inc.  
**Manufacturers' Address:** 600 Powder Mill Road, East Alton, IL 62024 [www.winchester.com](http://www.winchester.com)  
**Emergency Telephone Number:** US/Canada: 1-800-424-9300  
Outside US/Canada: 703-527-3887  
**SDS Control Group:** 618-258-3507 (Technical Information Only)

Olin SDS No.: 00104.0001

Issue Date: 02/13/17

Revision Date:

Revision No.:

## 2. HAZARDS IDENTIFICATION

DANGER!

EXPLOSIVE. KEEP AWAY FROM HEAT AND SPARKS. DO NOT SUBJECT TO MECHANICAL SHOCK. PARTICLES FROM FIRING MAY BE HARMFUL IF INHALED. HARMFUL IF SWALLOWED. REPEATED EXPOSURE MAY CAUSE ADVERSE EFFECTS TO FERTILITY AND THE FETUS. POSSIBLE LONG LASTING ENVIRONMENTAL EFFECTS. DO NOT TAKE INTERNALLY.

## US DOT SYMBOLS



## CANADA (WHMIS) SYMBOLS

This Product is not subject to WHMIS

Explosive, Class C.3, PE3

## GHS HAZARD SYMBOLS

**GHS Classifications:**

Explosive, Division 1.4  
Acute Toxicity Category 3 (Oral)  
Acute Toxicity Category 4 (inhalation: dust, mist)  
Reproductive Toxicity Category 1A  
STOT RE Category 2

**Signal Word:**

Danger

**Hazard Statements:**

H204: Fire or projection hazard  
H301: Toxic if swallowed  
H332: Toxic if inhaled  
H360: May damage fertility or the unborn child  
H373: May cause damage to organs through prolonged or repeated exposure

**Target organs:**

None Identified

**Precautionary Statements:**

P202: Do not handle until all safety precautions have been read and understood  
P210: Keep away from heat, open flames; no smoking  
P250: Do not subject to friction, grinding, or shock  
P260: Do not breathe dust, fume  
P264: Wash hands, forearms and exposed areas 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, gloves and eye protection  
P284: [in case of inadequate ventilation] wear respiratory protection  
P301+310: If swallowed, immediately call a poison control center or doctor  
P391: Collect spillage  
P501: Dispose of product properly

**GHS Pictograms:**

Exploding bomb, GHS01  
Acute toxicity, GHS06  
Specific Target Organ Toxicity, GHS08

**EU Classifications:**

Hazard Symbols E, T  
Risk Phrases R2: Risk of explosion by shock, friction, fire or other sources of ignition  
R20/22: Harmful by inhalation or if swallowed  
R60/63: May impair fertility and possible risk of harm to the unborn child  
R48: Danger of serious damage to health by prolonged exposure

Safety Phrases S15/16: Keep away from heat, sources of ignition  
S20/21: When using do not eat, drink or smoke  
S23: Do not breathe dust or fumes  
S28: After contact with skin wash immediately with plenty of water  
S36/37/39: Wear suitable protective clothing, gloves and eye protection  
S38: In case of insufficient ventilation, wear suitable respiratory protection  
S51: Use only in well-ventilated areas  
S53: Avoid exposure – obtain special instructions before use  
S61: Avoid release to the environment  
S62: If swallowed, do not induce vomiting: seek medical advice immediately

### Health Hazards or Risks From Exposure

This product is the finished metal alloy primer cap used in muzzleloading firearms. Therefore, under normal handling of this product, no exposure to any harmful materials will occur. The product contains trace amounts of these harmful substances:

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

**Barium:** Ingestion of large doses of soluble barium compounds can cause cyanosis, skeletal muscle paralysis, respiratory arrest, irregular heartbeat and hypertension.

**Lead:** 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.

It is unlikely that someone would be exposed to a significant amount of copper, barium or lead from handling these metal pieces.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% By Weight	CAS Number	EINECS/ ELINCS #
Copper	60 – 70	7440-50-8	231-159-6
Zinc	2 - 30	7440-66-6	231-175-3
Barium	0 – 2	7440-39-3	231-149-1
1,3-Benzenediol, 2,4,6-trinitro-, lead salt	0 - 2	15245-44-0	239-290-0

#### 4. FIRST AID MEASURES

Eye Contact: Immediately flush out trace material with water, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation develops, call a physician at once.

Skin Contact: Remove any contaminated clothing. Wash skin with plenty of soap and water.

Inhalation: Remove exposed individual from site of exposure; keep at rest in fresh air in a position comfortable for breathing. If exposed individual continues to feel unwell, call a physician or a poison control center.

Ingestion: If ingested, rinse mouth. Do not induce vomiting. 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.

Recommendations To Physicians:

No specific antidote available, treat symptoms

#### 5. FIRE FIGHTING MEASURES

PROPERTY	VALUE	PROPERTY	VALUE
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.:	250 °F
Upper Explosive Limit:	Not applicable	Flammability Classification: (defined by 29 CFR 1910.1200)	Not applicable

Unusual Fire and Explosion Hazards:

Explosion risk in case of fire. May detonate with heat, friction or mechanical impact. May ignite if heated to 250 °F. Not sensitive to static discharge.

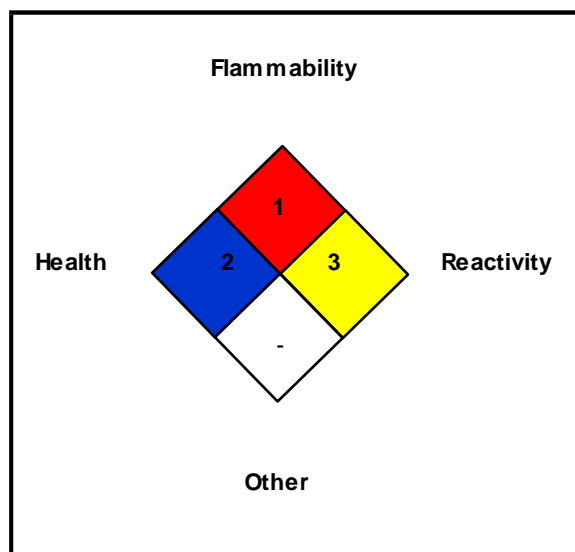
Extinguishing Media:

Choose extinguishing media suitable for surrounding materials.


Special Firefighting Procedures:

Exercise caution when fighting any chemical fire. Do not fight fire when fire reaches explosives. Evacuate to a safe distance. Firefighters should wear full protective gear. Do not breathe fumes or vapors from decomposition.

#### NFPA RATING SYSTEM



## HMIS RATING SYSTEM

HEALTH HAZARD (BLUE)		2*	
FLAMMABILITY HAZARD (RED)		1	
PHYSICAL HAZARD (YELLOW)		3	
<b>PROTECTIVE EQUIPMENT</b>			
EYES	PPE CODE	RESPIRATORY	HEARING
	A	See Sect 8	See Section 8

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

## 6. ACCIDENTAL RELEASE MEASURES

**FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEM TREC 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. Remove ignition sources. Do not subject materials to heat or mechanical shock. Collect material and place in a designated, labeled waste container. See Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Workers should wash hands 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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters:

CAS #	CHEMICAL NAME	ACGIH TLV	OSHA PEL	INTERNATIONAL OELS
7440-50-8	Copper	0.2 mg/m <sup>3</sup> (fume), 1 mg/m <sup>3</sup> (dusts and mists)	0.1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dusts and mists)	Austria, Belgium, Canada: 0.2 mg/m <sup>3</sup> (fumes), 1 mg/m <sup>3</sup> (dusts) Denmark: 1.0 mg/m <sup>3</sup> (dust and powder) Germany (MAK): 0.1 mg/m <sup>3</sup> (fume), 1 mg/m <sup>3</sup> (dusts and mists)
7440-66-6	Zinc	None established	None established	None established
7440-39-3	Barium	0.5 mg/m <sup>3</sup> (inhalable)	0.5 mg/m <sup>3</sup>	Australia, Canada, EU, Ireland, New Zealand, Poland, Singapore, South Korea, U.K. = 0.5 mg/m <sup>3</sup> Germany: 0.5 mg/m <sup>3</sup> (inhalable aerosol) [except barium oxide and barium dihydroxide] Short term limit value: 4 mg/m <sup>3</sup> (inhalable aerosol) Sweden: 0.5 mg/m <sup>3</sup> (total dust)
15245-44-0	1,3-Benzenediol, 2,4,6-trinitro-, lead salt	None established	None established	None established

### Engineering Controls:

Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation. Use explosion-proof 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 needed

### Skin 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	VALUE	PROPERTY	VALUE
Appearance:	Small metal alloy pieces	Physical State:	Solid
Odor:	None	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 (g/cc):	Not available
Specific gravity (g/cc):	Not available	Viscosity (cps):	Not applicable
pH:	Not applicable	Decomposition Temperature:	Not applicable
Solubility in Water (20 °C):	Insoluble	Evaporation Rate:	Not applicable
Volatiles, Percent by volume:	Not applicable	Octanol/water partition coefficient:	Not applicable

## 10. STABILITY AND REACTIVITY

### Stability:

Risk of explosion by shock, friction, fire or other sources of ignition

### Possibility of Hazardous Reactions:

Hazardous polymerization will not occur

### Incompatible Materials:

Strong acids, strong bases, strong oxidizers

### Hazardous Decomposition Products:

None known. Reaction with acids may liberate explosive hydrogen gas.

### Conditions to Avoid:

Heat, sparks, open flame, direct sunlight, contact with incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

Potential Routes of Entry: Inhalation, Skin, and by Ingestion.

The physical nature of this product makes absorption from any route unlikely.

Effects Of Acute Exposure:

PRODUCT		COMPONENTS			
		Barium	Lead Styphnate*	Copper	Zinc
Inhalation LC <sub>50</sub>	Inhalation unlikely	No data	1,500 mg/m <sup>3</sup> (estimated)	No data	No data
Skin Contact LD <sub>50</sub>	Skin absorption unlikely	No data	No data	375 mg/kg, sc (rabbit)	No data
Ingestion LD <sub>50</sub>	Ingestion unlikely, possibly toxic	100 – 500 mg/kg (rat)	500 mg/kg (estimated)	3.5 mg/kg, ip (mouse)	No data
Irritation	Not a skin or eye irritant as a solid.	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

\*Lead styphnate is a synonym for 1,3-benzenediol, 2,4,6-trinitro, lead salt

Other Adverse Effects:

Target Organ Toxicity:

No reported target organ toxicity from this product. Repeated exposure to 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. Repeated exposure to 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; changes including birth defects have been reported.

Mutagenicity:

This product is not known or reported to be mutagenic. Lead has been shown to be mutagenic in several *in vitro* assays.

Carcinogenicity:

This product is not listed as a carcinogen by OSHA, NTP or IARC. NTP and IARC list lead and lead compounds as probable human carcinogens, Group 2A.

## 12. ECOLOGICAL INFORMATION

Environmental Effects:

PRODUCT: Product has not been tested for environmental properties.

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.

Zinc:

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

No data

PERSISTENCE/DEGRADABILITY:

Not biodegradable.

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:

Proper Shipping Name: Primers, Cap Type

Hazard Class Number and Description: 1.4B

UN Identification Number: UN0378

Packing Group: II

DOT Label(s) Required: Yes

Additional Information: ERG Number 114

### 15. REGULATORY INFORMATION

US FEDERAL

TSCA	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. (No reporting is required if diameter of the pieces of metal is equal to or exceeds 100 micrometers (0.004 inches).				
SARA 313:	Barium, Copper, Lead and lead compounds, Zinc (fume or dust)				
SARA 311/312:	<u>Health:</u>	Acute – Yes Chronic - Yes	<u>Fire:</u> No	<u>Reactivity:</u> Yes	<u>Release of Pressure:</u> No
SARA 302 EHS List:	None of the components of this product are listed.				

\*RQ = Reportable Quantity

STATE RIGHT-TO-KNOW STATUS

Component	California	New Jersey	Pennsylvania	Massachusetts	Michigan
Copper	Not listed	X	X	X	X
Zinc	Not listed	X	X	X	X
Barium	Not listed	X	X	X	X
1,3-Benzenediol, 2,4,6-trinitro-, lead salt	Yes*	X	Not listed	X	Not listed

\*California Prop. 65; Listed under lead and lead compounds

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

Warning! This product contains detectable amounts of a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

GHS CLASSIFICATION

Explosive, Division 1.4  
 Acute Toxicity Category 3 (Oral)  
 Acute Toxicity Category 4 (inhalation: dust, mist)  
 Reproductive Toxicity Category 1A  
 STOT RE Category 2



## EUROPEAN REGULATIONS

All chemical components listed on EINECS

Hazard Classification

Danger Symbols: E, T

Risk Phrases: R2, R20/22, R48, R60/63

Safety Phrases: S15/16, S20/21, S23, S28, S36/37/39, S38, S51, S53, S61, S62

German WGK Classification: Not known.

## CANADIAN REGULATIONS

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

IDL: Copper

CEPA PRIORITIES LIST: None

WHMIS: Not subject to WHMIS

## JAPANESE REGULATIONS

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

Japanese Priority Assessment Chemical Substances: None of the components of this product are listed

## OTHER INTERNATIONAL CHEMICAL INVENTORIES

Swiss Giftlist List of Toxic Substances: All Components Listed

Australian Inventory (AICS): All Components Listed

**16. OTHER INFORMATION***REVISIONS:*

*PREPARED BY:* Olin Corporation

*OTHER:* Additional information available from: [www.winchester.com](http://www.winchester.com)

***NOTICE:*** 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. OLIN BELIEVES THIS INFORMATION TO BE RELIABLE AND CURRENT AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS.