



MATERIAL SAFETY DATA SHEET

Olin MSDS No.: 00074.0001
Revision No.: 12

Revision Date: 1/1/11
Supercedes: 1/1/10

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: LEAD-FREE PRIMED SHELLCASES
Chemical Name: Mixture - Metal Alloy
Synonyms: Centerfire Heavy Metal Free Primer Shellcase

CENTERFIRE LEAD FREE PRIMED SHELLCASES USE THE FOLLOWING DESCRIPTIONS IN VARIOUS COMBINATIONS PRECEDED BY THE CALIBER OF THE PRIMED CASE. THE TERM "LEAD FREE" OR THE ABBREVIATION "LF" WILL ALSO BE PART OF THESE TERMS:

- CENTERFIRE PRIMED BRASS
CENTERFIRE RIFLE PRIMED CASE
CENTERFIRE RIFLE PRIMED SHELLCASE
CENTERFIRE RIFLE PRIMED BRASS
CFR PRIMED CASE
CFR PRIMED SHELLCASE
CFR PRIMED BRASS
PSC (PRIMED SHELLCASE)
LF (LEAD FREE)
CENTERFIRE PRIMED SHELLCASE
CENTERFIRE PISTOL PRIMED CASE
CENTERFIRE PISTOL PRIMED SHELLCASE
CENTERFIRE PISTOL PRIMED BRASS
CFP PRIMED CASE
CFP PRIMED SHELLCASE
CFP PRIMED BRASS
EPC (EMPTY PRIMED CASE)

Chemical Family: Mixture
Formula: Not applicable - mixture
Product Use/ Description: Small arms primed shellcase

COMPANY ADDRESS: MSDS Control Group, Olin Corporation - Winchester Division, Inc., 600 Powder Mill Road, East Alton, IL 62024, www.winchester.com
TECHNICAL INFORMATION: 618-258-3507
EMERGENCY TELEPHONE NUMBER: 618-258-2111

2. COMPOSITION / INFORMATION ON INGREDIENTS

Table with 6 columns: CAS Number, Components, % By Weight, EINECS/ ELINCS #, EU Classification Symbol, EU Classification R-Phrase. Rows include Copper, Zinc, Diazodinitro phenol (Dinol, DDnNP), Potassium nitrate, Boron, and Nitrocellulose.

*This material is not listed in Annex 1 of Directive 88/379/EEC. Olin has classified the material according to the conventional method based upon information from similar materials.

OSHA REGULATORY STATUS: Explosive

3. HAZARDS IDENTIFICATION

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

HAZARD RATINGS (for dust or fume)
Hazardous Materials Identification System (HMIS)

Degree of hazard (0 = low, 4 = extreme)
 Health: 0 Flammability: 0

Physical Hazard:
 Explosive: 2

National Fire Protection Association (NFPA)

Mixture. Not rated.

HUMAN THRESHOLD RESPONSE DATA

Odor Threshold:

Unknown

Irritation Threshold:

Unknown

Immediately Dangerous to Life or Health (IDLH) Value(s):

The IDLH for this product is not known. The IDLH for copper is 100 mg/m³.

POTENTIAL HEALTH EFFECTS

This product is composed of a finished plastic tube 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 product 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:

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

Potassium nitrate: Ingestion of large doses of potassium nitrate can lead to the development of methemoglobinemia (inability of the blood to carry sufficient oxygen). It is not anticipated that exposure from this product would cause this effect.

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

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: There are no medical conditions known to be aggravated by exposure to this product in its solid form.

POTENTIAL ENVIRONMENTAL EFFECTS: Product has not been tested for environmental properties.

4. FIRST AID MEASURES

EYE CONTACT: 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.

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.:	No data
Upper Explosive Limit:	Not applicable	Flammability Classification: (defined by 29 CFR 1910.1200)	Explosive

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

EXTINGUISHING MEDIA: Flood area with water. If no water is available, carbon dioxide, dry chemical or earth may be used.

SPECIAL FIREFIGHTING PROCEDURES: In case of fire, or if the fire reaches the cargo, use normal fire fighting equipment. Turnout gear supplies sufficient fire fighter protection from the explosive characteristics of this product.

6. ACCIDENTAL RELEASE MEASURES

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

Spills of this material should be handled carefully. Do not subject materials to mechanical shock. 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.

7. HANDLING AND STORAGE

HANDLING: No special requirements
STORAGE: No special requirements
Shelf Life Limitations: Not known
Incompatible Materials for Packaging: None known
Incompatible Materials for Storage or Transport: Acids, Class A & B explosives, strong oxidizers, and caustics
CONDITIONS TO AVOID: Mechanical impact or shock and electrical discharge. Friction.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	CHEMICAL NAME	ACGIH TLV	OSHA PEL	INTERNATIONAL OELS
7440-50-8	Copper	0.2 mg/m ³ (fume), 1 mg/m ³ (dusts and mists)	0.1 mg/m ³ (fume) 1 mg/m ³ (dusts and mists)	Austria, Belgium, Canada: 0.2 mg/m ³ (fumes), 1 mg/m ³ (dusts) Denmark: 1.0 mg/m ³ (dust and powder) Germany (MAK): 0.1 mg/m ³ (fume), 1 mg/m ³ (dusts and mists)
7440-66-6	Zinc	None established	None established	None established
9004-70-0	Nitrocellulose	None established	None established	None established
4682-03-5	Diazodinitro phenol (Dinol, DDnNP)	None established	None established	None established
7757-79-1	Potassium nitrate	None established	None established	None established
7440-42-8	Boron	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.
EYE / FACE PROTECTION: Use safety glasses.
SKIN PROTECTION: Not normally needed
RESPIRATORY PROTECTION: Respiratory protection not normally needed.
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
<i>Appearance:</i>	Red/gold metallic color (non-plated); silver colored (nickel plated)	<i>Vapor Density (air = 1):</i>	Not applicable
<i>Odor:</i>	None	<i>Boiling Point (°F):</i>	Not applicable
<i>Molecular Weight:</i>	Not applicable - Mixture	<i>Melting point:</i>	Not applicable
<i>Physical State:</i>	Solid	<i>Specific gravity (g/cc):</i>	Not applicable
<i>pH:</i>	Not applicable	<i>Bulk Density:</i>	Not applicable
<i>Vapor Pressure (mm Hg):</i>	Not applicable	<i>Viscosity (cps):</i>	Not applicable
<i>Vapor Density:</i>	Not applicable	<i>Decomposition Temperature:</i>	60°C (140°F)
<i>Solubility in Water (20 °C):</i>	Insoluble	<i>Evaporation Rate:</i>	Not applicable
<i>Volatiles, Percent by volume:</i>	Not applicable	<i>Octanol/water partition coefficient:</i>	Not applicable

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressure.
MATERIALS TO AVOID: Acids, Class A & B explosives, strong oxidizers, and caustics
HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides, carbon monoxide, lead oxides, carbon dioxide, lead dust/fume
HAZARDOUS POLYMERIZATION: Will not occur.
OTHER: **Cartridge may detonate if case is punctured or severely damaged.**

11. TOXICOLOGICAL INFORMATION

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

ACUTE ANIMAL TOXICITY DATA:

For Product:		For Components					
		Copper	Nitrocellulose	Diazaodinitrophenol	Zinc	Potassium nitrate	Boron
Oral LD ₅₀	Not applicable for product	3.5 mg/kg (mouse, intraperitoneal)	> 5 g/kg (rat)	No data	No data	3750 mg/kg (at)	No data
Dermal LD ₅₀	Not applicable for product	375 mg/kg (rabbit, subcutaneous)	No data	No data	No data	No data	No data
Inhalation LC ₅₀	Not applicable for product. Particles generated from firing may be slightly toxic.	No data	No data	No data	No data	No data	No data
Irritation	Not a skin or eye irritant as a solid.	Respiratory irritant	No data	Irritant	Eye irritant	No data	No data

SUBCHRONIC/ CHRONIC TOXICITY:

CARCINOGENICITY:

MUTAGENICITY:

REPRODUCTIVE, TERATOGENICITY, OR DEVELOPMENTAL EFFECTS:

NEUROLOGICAL EFFECTS:

INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY:

None known or reported.

This product is not known or reported to be carcinogenic by IARC, OSHA, NTP, or EPA

This product is not known or reported to be mutagenic. Diazodinitrophenol tested positive in a bacterial mutagenicity test.

This product is not known or reported to cause reproductive or developmental effects.

This product is not known or reported to cause neurological effects.

None known or reported.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No data is available on this product. Individual constituents are as follows:

Copper: The toxicity of copper to aquatic organisms varies significantly not only with the species, but also with the physical and chemical characteristics of the water, such as its temperature, hardness, turbidity and carbon dioxide content. Copper concentration varying from 0.1 to 1.0 mg/l have been found by various investigators 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.

Nitrocellulose: LC₅₀ > 1000 mg/l (fish, invertebrates, algae)

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

- Rainbow trout fingerlings: 0.13 mg/l, 12 – 24 hours
- Bluegill sunfish: 6 hr TLM = 1.9 – 3.6 mg/l (soft water, 30°C)
- Rainbow trout: 4 mg/l (hard water) 3 days
- Sticklebacks: 1 mg/l (soft water) 24 hrs

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

MOBILITY: No data

PERSISTANCE/DEGRADABILITY: Not biodegradable.

BIOACCUMULATION: No data

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D003. This waste is subject to Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly. Material may need to be deactivated before ultimate disposal.

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 treatment, storage and disposal for hazardous and nonhazardous wastes.

14. TRANSPORT INFORMATION

	U.S. DOT	RID/ADR	IMDG	IATA	IMO	Canada TDG
<i>PROPER SHIPPING NAME:</i>	This material is not regulated As a DOT hazardous material for domestic (U.S. Land) transportation.	Cases, Cartridge, Empty With Primer				
<i>HAZARD CLASS:</i>		1.4S				
<i>UN NO.:</i>		UN0055				
<i>PACKING GROUP:</i>		II				
<i>HAZARD LABEL/PLACARD:</i>		1.4S / 1.4 Placard over 1001 lbs. (454 kg)				
<i>REPORTABLE QUANTITY:</i>						
<i>SPECIAL COMMENTS:</i>	Regulated for international land, water and air transportation					

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:	Copper, Zinc (fume or dust)			
SARA 313 Hazard Class:	<u>Health:</u>	Acute – No Chronic - No	<u>Fire:</u> No	<u>Reactivity:</u> None <u>Release of Pressure:</u> Yes
SARA 302 EHS List:	None of the components of this product are listed.			

RQ = Reportable Quantity

STATE RIGHT-TO-KNOW STATUS

Component	CA Prop. 65	New Jersey	Pennsylvania	Massachusetts	Michigan
Copper	Not listed	X	X	X	X
Zinc	Not listed	X	Not listed	X	X
Nitrocellulose	Not listed	X	X	X	Not listed
Diazodinitro phenol (Dinol, DDnNP)	Not listed	Not listed	Not listed	Not listed	Not listed
Potassium nitrate	Not listed	Not listed	X	X	Not listed
Boron	Not listed	Not listed	Not listed	Not listed	Not listed

EUROPEAN REGULATIONS

Hazard Classification

Danger Symbol: E Explosive

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

Safety Phrases: S2 Keep out of reach of children.

German WGK Classification: Not known

CANADIAN REGULATIONS

DSL LIST: The components of this product are on the DSL or are exempt from reporting under the New Substances Notification Regulations.

IDL: Copper

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

16. OTHER INFORMATION

REVISIONS: 9/21/05 – added additional information for a component; 7/1/09 – changed emergency contract number and mailing address; 1/1/11 - review

PREPARED BY: Olin Corporation

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

NOTICE: THE INFORMATION IN THIS MSDS 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.