

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:** **CARTRIDGES FOR TOOLS, BLANK LEAD FREE or CARTRIDGES, POWER DEVICES LEAD FREE**

**CAS Number:** Mixture – Metal Alloy

**Synonyms:** Lead Free Rimfire Cartridge for Power Device, 22, 25, 27 Lead Free Caliber Power tool Round, Lead Free Power Load, Lead Free Blank Power Load and/or Booster

**Product Use:** Powertool Loaded Round

**U.N. Number:** UN 0014 or UN 0323

**U.N. Dangerous Goods Class**  
**Class** Explosive, 1.4S

**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

**MSDS Control Group:** 618-258-3507 (Technical Information Only)

Olin SDS No.: 00100.0001

Issue Date: 02/03/2015

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Revision No.: 2

## 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

This Product is not subject to WHMIS

Class 6 Explosive

GHS HAZARD SYMBOLS





**GHS Classifications:** Explosive Division 1.4  
Aquatic Environment, Chronic II

**Signal Word:** Warning

**Hazard Statements:** H204: Fire or projection hazard  
H411: Toxic to aquatic life with long lasting effects

**Target organs:** None

**Precautionary Statements:** P102: Keep out of reach of children  
P210: Keep away from heat/sparks/open flame/hot surfaces  
P250: Do not subject to shock/friction  
P270: Do not eat, drink or smoke when using this product  
P273: Avoid release to the environment  
P280: Wear protective gloves/protective clothing/eye protection/face protection

**GHS Pictograms:** Explosive; Pictogram: exploding bomb  
Environment; Pictogram Code: GHS09

**EU Classifications:** E, N

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

Risk Phrases 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 children  
S15: Keep away from heat  
S21: When using do not smoke  
S39: Wear eye/face protection  
S61: Avoid release to the environment

#### **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 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.

**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).

**Glass Fines:** May cause eye, skin and respiratory tract irritation

**KDNBF Powder, Tetracene:** May cause eye and skin irritation

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.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% By Weight	CAS Number	EINECS/ ELINCS #
Iron	0 - 97	7439-89-6	231-096-4
Copper	50 - 65	7440-50-8	231-159-6
Glass Fines	40 – 60	65997-17-3	266-046-0
KDNBF Powder (Potassium dinitrohydroxyhydr obenzofuroxan)	30 – 50	29267-75-2	249-543-7
Zinc	15 - 32	7440-66-6	231-175-3
Tetracene (1,3- tetrazolyl-4- guanyltetrazene monohydrate)	2 -10	109-27-3	203-659-4
Nitroglycerin	0 – 6	55-63-0	200-240-8
Supplier Proprietary Ingredients	0 – 5	Proprietary	Proprietary
1,3-Diethyl diphenyl urea	0 – 1.5	85-98-3	201-645-2

### 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.
<u>Skin Contact:</u>	Wash skin with plenty of soap and water.
<u>Inhalation:</u>	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.
<u>Ingestion:</u>	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. Firing particles may aggravate existing dermatitis, blood condition, asthma, emphysema, or other respiratory disease.

#### Recommendations To Physicians:

Remove from exposure, if possible, and 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.:	No data
Upper Explosive Limit:	Not applicable	Flammability Classification: (defined by 29 CFR 1910.1200)	Explosive

#### Unusual Fire and Explosion Hazards:

Possible projection hazard. This product will explode at elevated temperatures, when subjected to mechanical shock or possibly due to static discharge.

#### Extinguishing Media:

Water spray – apply by mechanical means only. Flood area with water.

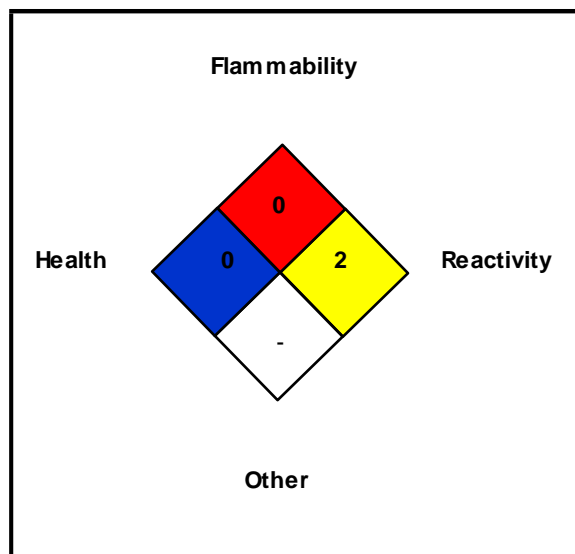
Special Firefighting Procedures:


Fight all fires from a remote and explosion-resistant site. Evacuate all non-essential personnel. 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 provide 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****HMIS RATING SYSTEM**

HEALTH HAZARD (BLUE)		0
FLAMMABILITY HAZARD (RED)		0
PHYSICAL HAZARD (YELLOW)		2
<b>PROTECTIVE EQUIPMENT</b>		
EYES	PPE CODE	RESPIRATORY HEARING
	A	See Sect 8 See Sect 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. 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

Precautions for Safe Handling: Use appropriate personal protective equipment (see Section 8). Careful handling is recommended; cartridges may detonate if case is punctured or severely damaged. Eating, drinking and smoking should be prohibited in areas where this material is handled and stored. Workers should wash hands thoroughly after handling

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. Avoid high radio frequency energy fields (radar stations).

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

CAS #	CHEMICAL NAME	ACGIH TLV	OSHA PEL	INTERNATIONAL OELS
7439-89-6	Iron	None established	None established	None established
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)
65997-17-3	Glass fines	5 mg/m <sup>3</sup> (inhalable fraction) or 1 fiber/cc (respirable fraction)	5 mg/m <sup>3</sup> (respirable particles)	Germany (MAK): 1.5 mg/m <sup>3</sup> (respirable particles)
29267-75-2	KDNBF Powder	None established	None established	None established
7440-66-6	Zinc	None established	None established	None established
109-27-3	Tetrazene	None established	None established	None established
55-63-0	Nitroglycerin	0.05 ppm Skin	0.2 ppm Ceiling Skin	Denmark: 0.02 ppm (0.2 mg/m <sup>3</sup> ) Norway, Sweden: 0.03 ppm (0.3 mg/m <sup>3</sup> ) Austria, Belgium, Germany, The Netherlands, Poland, Switzerland: 0.05 ppm (0.47 mg/m <sup>3</sup> ), skin Finland, France: 0.1 ppm (0.9 mg/m <sup>3</sup> ), skin U.K.: 0.2 ppm (2 mg/m <sup>3</sup> ), skin
85-98-3	1,3-Diethyl diphenyl urea	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:	Cylindrical brass cartridge	Physical State:	Solid
Odor:	None	Odor Threshold:	None
Boiling Point (°F):	Not applicable	Melting point:	Not applicable

PROPERTY	VALUE	PROPERTY	VALUE
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:	Unknown
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:

Stable under normal temperatures and pressure.

### Possibility of Hazardous Reactions:

Hazardous polymerization will not occur

### Incompatible Materials:

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

### Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, nitrogen oxides and potassium oxide

### Conditions to Avoid:

Will detonate with mechanical impact or shock; avoid physical damage (puncture) of containers. Avoid 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. A small amount of inhalable particles may be created when cartridge is fired.

### Effects Of Acute Exposure:

PRODUCT		SELECTED COMPONENTS					
		Nitroglycerin	Tetracene	Copper	Glass fines	KDNBF powder	1,3-Diethyl diphenyl urea
Inhalation LC <sub>50</sub>	Particles generated from firing may be slightly toxic	No data	No data	No data	>20 mg/kg (mouse, intratracheal)	No data	No data
Skin Contact LD <sub>50</sub>	Skin absorption unlikely	29.2 mg/kg (rat)	No data	375 mg/kg, sc (rabbit)	No data	No data	No data
Ingestion LD <sub>50</sub>	Ingestion unlikely	105 mg/kg (rat)	No data	3.5 mg/kg, ip (mouse)	No data	>2,000 mg/kg (rat) [similar chemical]	2,750 mg/kg (rat)
Irritation	Particles generated from firing may be slightly irritating to the eyes	Eye and skin irritant	Eye and respiratory tract irritant	Respiratory irritant	Eye, skin and respiratory irritant	Eye, skin and respiratory irritant	Eye, skin and respiratory irritant
Sensitization	Sensitization to this Product has not been reported	No data	No data	No data	No data	No data	No data

### Other Adverse Effects:

#### Target Organ Toxicity:

No reported target organ toxicity from this product. Nitroglycerin has been shown to cause vasodilation and methemoglobinemia (cyanosis).

#### Reproductive Toxicity:

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

#### Teratogenicity (Birth Defects):

This product is not known or reported to cause developmental toxicity.

#### Mutagenicity:

This product is not known or reported to be mutagenic. 1,3-diethyl diphenyl urea has been shown to be non-genotoxic in a battery of *in vitro* assays.

#### Carcinogenicity:

This product is not listed as a carcinogen by OSHA, NTP or IARC. Implantation or injection of man-made glass fibers into laboratory animals has resulted in the formation of tumors. However, these studies bypass the animal's natural defense mechanisms and are not necessarily representative of the response in human exposures. NTP lists fibrous glass as an anticipated human carcinogen. IARC lists fibrous glass as possibly carcinogenic to humans, group 2B.

## 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.

Nitroglycerin:

Bluegill, 96 hour LC<sub>50</sub> = 1.2 mg/l (static)

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	Cartridges for Tools, Blank	Cartridges, Power Device
Hazard Class Number and Description	Explosive 1.4S	Explosive 1.4S
UN Identification Number	UN0014	UN0323
Packing Group	PGII	PGII
DOT Label(s) Required	None	Explosive 1.4S

Marine Pollutant:

None of the ingredients are classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B)

Additional Information:

North American Emergency Response Guidebook Number (2004): 114

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.

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

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is classified as Dangerous Goods.

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.

**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.; KDNBF powder, R.Q. = 100 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, Nitroglycerin, Zinc (fume or dust)			
SARA 311/312:	<u>Health:</u>	Acute – No Chronic - No	<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.			

\*R.Q. = Reportable Quantity

STATE RIGHT-TO-KNOW STATUS

Component	California	New Jersey	Pennsylvania	Massachusetts	Michigan
Iron	Not listed	Not listed	Not listed	X	X
Copper	Not listed	X	X	X	X
Glass fines	Not listed	Not listed	Not listed	Not listed	Not listed
KDNBF Powder	Not listed	Not listed	Not listed	-	-
Zinc	Not listed	X	Not listed	X	X
Tetracene	Not listed	Not listed	Not listed	Not listed	Not listed
Nitroglycerin	Not listed	X	X	X	Not listed
1,3-Diethyl diphenyl urea	Not listed	Not listed	Not listed	-	-

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

None listed

GHS CLASSIFICATIONExplosive Division 1.4  
Aquatic Environment, Chronic IIEUROPEAN REGULATIONSHazard Classification

Danger Symbols: E, N

Risk Phrases: R2, R51/53

Safety Phrases: S2, S15, S21, S39, S61

German WGK Classification: Not known.

CANADIAN REGULATIONS

DSL/NDSL Inventory: The components of this product are listed

IDL: Copper, Fibrous glass, Nitroglycerin

CEPA PRIORITIES LIST: None of the components of this product are listed

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): All components of this product are listed except glass fines and KDNBF powder



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 except KDNBF powder

#### 16. OTHER INFORMATION

REVISIONS: 02

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.