



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 – SHOTSHELL 8 GAUGE INDUSTRIAL

CAS Number: Mixture – Metal Allov and other materials

Synonyms: Slug Loads: 3 oz.(85 g) lead (CE8S, CE8SPW, CE8RVPW, CE8LVPW); 3 oz.(85 g) zinc (CE8Z,

CE8ZPW, CE8ZRVPW); 2-7/8 oz.(82 g) zinc (CE8ZLVPW); 2 oz.(56 g) zinc (CE82Z, CE82ZPW); 2

oz.(56 g) steel (CE8FEPW); 1-5/8 oz.(46 g) iron (CE8FRPW).

Shot Loads: 00-Buckshot 20 pellet 2-1/4 oz.(64 g) lead (CE8B2P); 00-Buckshot 24 pellet 2-3/4 oz.(78 g) lead (CE8B2LVP); #2 chilled shot 3 oz.(85 g) lead (CE8LV2P, CE8HV2P); #4 chilled shot 3 oz.(85

g) lead (CE8LV4P, CE8HV4P); 8 pellet 1-1/8 oz.(32 g) zinc shot (CE8B2ZP).

Product Use: Assembly of Shotshell 8 Gauge Industrial Load Components

U.N. Number: UN 0012 U.N. Dangerous Goods Explosive, 1.4S

Class

Manufacturer/Responsible

Party:

Olin Winchester, LLC

Manufacturers' Address: 600 Powder Mill Road, East Alton, IL 62024 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.: 00073.001 Issue Date: 6/1/15

Revision Date: 02/28/2019

Revision No.: 5

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 WHMIS

Class 6 Explosive



GHS Classifications: Carcinogenicity Category 1A

Reproductive Toxicity Category 1A

Explosive Division 1.4 STOT RE Category 1

Aquatic Environment, Chronic II

Signal Word: Danger

<u>Hazard Statements</u>: H204: Fire or projection hazard

H350: May cause cancer

H360: May damage fertility or the unborn child H362: 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

<u>Target organs:</u> Nervous, renal and hematopoietic systems

<u>Precautionary Statements:</u> P102: Keep out of reach of children

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

P250: Do not subject to shock/friction

P260: Do not breathe dust/fume/gas/mist/vapors/spray

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 gloves/protective clothing/eye protection/face protection

GHS Pictograms: Explosive; Pictogram: exploding bomb

Specific Target Organ Toxicity; Pictogram Code: GHS08

Environment; Pictogram Code: GHS09

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EU Classifications:

Hazard Symbols E, T, N

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

R45 (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 child

R63: 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 children

S15: Keep away from heat

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

S22: Do not breathe dust S39: Wear eye/face protection S51: Use only in well-yentilated

S51: Use only in well-ventilated areas 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 cartridge 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.

<u>Arsenic</u>: Epidemiological studies in humans have shown an association between increased incidences of lung and skin cancer and prolonged exposures to high concentrations of arsenic. Arsenic is classified as a known human carcinogen.

<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

This MSDS covers a number of different products consisting of the following components:

- A) Load can be Lead, Zinc, or Steel Slug
- B) Primed Shell Case
- C) Wad
- D) Propellant

Components	% By Weight	CAS Number	EINECS/ ELINCS #					
If The Load Is Lead Slug								
Lead	65 - 75	7439-92-1	231-100-4					
Antimony	0.1 – 4.5	7440-36-0	231-146-5					
Arsenic	0.1 – 1.1	7440-38-2	231-148-6					
If The Load Is Zinc	Slug							
Zinc	65 -75	7440-66-6	231-175-3					
If The Load is Stee	l Slug							
Iron	65 – 75	7439-89-6	231-096-4					
Ingredients in Othe	er Components							
Copper	5 – 12	7440-50-8	231-159-6					
Iron	0.5 - 2.5	7439-89-6	231-096-4					
Zinc	1 - 6	7440-66-6	231-175-3					
Nitrocellulose	1 - 5	9004-70-0	Polymer					
Lead Styphnate	0.1 - 1	15245-44-0	239-290-0					
Wad (non-	1 - 5	Mixture	Not applicable					
hazardous)			·					

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FIRST AID MEASURES

Immediately flush out fume or particles with large amounts of water for at least 15 minutes, occasionally lifting Eve Contact:

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

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

Unusal Fire and Explosion Hazards:

Extinguishing Media:

Possible projection hazard. Flood area with water. If no water is available, carbon dioxide, dry chemical or

earth may be used.

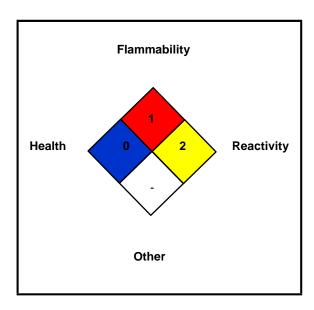
Special Firefighting Procedures: Do not fight fire when fire reaches cargo. Cargo may explode.

> 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



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HMIS RATING SYSTEM

HEALTH	0*					
FLAMM	FLAMMABILITY HAZARD (RED)					
PHYSIC	PHYSICAL HAZARD (YELLOW)					
	PROTEC	TIVE EQUIPME	NT			
EYES	EYES PPE RESPIRATORY HEAR CODE					
	8					

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.

A spill of this material will normally not require emergency response team capabilities. If, Spill Response:

however, a large spill occurs, call 1-888-289-1911 for technical assistance.

Spills of this material should be handled carefully. Do not subject materials to mechanical Accidental Release Procedures: 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.

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

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
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)
7439-92-1	Lead	0.05 mg/m ³	0.05 mg/m ³	Austria, Denmark, Germany, Sweden, Switzerland: 0.1 mg/m ³ Norway, Poland: 0.05 mg/m ³
7440-66-6	Zinc	None established	None established	None established
9004-70-0	Nitrocellulose	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/m ³

7439-89-6	Iron	None established	None established	None established	
7440-38-8	Arsenic	0.01 mg/m ³	0.01 mg/m ³	Germany, MAK – 1 mg/m ³	
				Austria, Belgium, Finland, Japan, Holland,	
				Czechoslavakia, Hungary and Poland - 0.5	
				mg/m ³	
				Italy – 0.25 mg/m ³	
				Switzerland, Canada (Alberta & others) – 0.2	
				mg/m ³	
				Sweden – 0.05 mg/m ³	
				Canada (B.C.), Denmark = 0.01 mg/m ³ , K1	
55-63-0	Lead Styphnate	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.

<u>Eye/Face Protection:</u>
<u>Hand Protection:</u>

Skin Protection:

Use safety glasses.
Not normally needed
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 plastic cartridge	Physical State:	Solid
	with metal base		
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	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> Stable under normal temperatures and pressure.

<u>Possibility of Hazardous Reactions:</u> Hazardous polymerization will not occur

Incompatible Materials: Acids, Class A & B explosives, strong oxidizers, and caustics

<u>Hazardous Decomposition Products:</u> Nitrogen oxides, carbon monoxide, lead oxides, carbon dioxide, lead

dust/fume

Conditions to Avoid: Contact with incompatible materials. Physical damage to containers;

cartridges may detonate if case is punctured.

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.

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Effects Of Acute Exposure:

PRODUCT		SELECTED COMPONENTS							
		Lead	Arsenic	Copper	Nitrocell- ulose	Antimony	Lead styphnate	Iron	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	No data
Skin Contact LD ₅₀	Skin absorption unlikely	No data	No data	375 mg/kg, sc (rabbit)	No data	No data	No data	No data	No data
Ingestion LD ₅₀	Ingestion unlikely	No data	763 mg/kg (rat)	3.5 mg/kg, ip (mouse)	>5 g/kg (rat)	7 g/kg (rat)	No data	30 g/kg (rat)	No data
Irritation	Particles generated from firing may be slightly irritating to the eyes	Not irritating	No data	Respir- atory irritant	No data	No data	No data	Eye irritant	Eye irritant
Sensitizat ion	Sensitization to this Product has not been reported	No data	No data	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. Lead has caused nervous

system, kidney and hematopoietic system damage in humans and laboratory

animals.

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

been shown to reduce male reproductive function in humans and laboratory

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

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.

IARC and US EPA list lead and lead compounds as probable human carcinogens Carcinogenicity:

(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.

ECOLOGICAL INFORMATION 12.

Environmental Effects:

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

COMPONENTS:

Arsenic: Daphnia magna, 48 hr. $LC_{50} = 3.8 \text{ mg/L}$; Fathead minnow, 96 hr $LC_{50} = 9.9$

mg/L

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

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.

Bluegill sunfish, 48 hr. $LC_{50} = 2-5$ mg/l. Lead is toxic to waterfowl. Lead: Nitrocellulose:

 $LC_{50} > 1000$ mg/l to fish, invertebrates, and algae.

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: Dissolved lead from degraded slugs may migrate through soil.

PERSISTANCE/DEGRADABILITY: Not biodegradable. Slugs 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:

Proper Shipping Name: Cartridges, small arms (other than blanks)

Hazard Class Number and Description: Explosive 1.4S

<u>UN Identification Number:</u> UN 0012

Packing Group: PGII

DOT Label(s) Required: Explosive 1.4

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 if packaged as a consumer commodity per 49 CFR 173.

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 comp	The components of this product are listed on the Toxic Substance Control Act inventory.						
CERCLA:	Arsenic, R	Antimony, R.Q. = 5000 lbs.; Copper, R.Q.* = 5000 lbs.; Zinc, R.Q. = 1000 lbs.; Lead, R.Q. = 10 lbs.; Arsenic, R.Q. = 1 lb. (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, Zinc (fume or dust), Antimony, Arsenic						
SARA 311/312:	Health:	Health: Acute – No Fire: No Reactivity: Yes Release of Pressure: No						
SARA 302 EHS List:	None of th	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	Χ	X	X	X
Lead	X	X	X	X	X
Zinc	Not listed	X	Not listed	X	X
Nitrocellulose	Not listed	X	X	X	Not listed
Iron	Not listed	Not listed	Not listed	Not listed	Not listed
Antimony	Not listed	X	X	X	X
Arsenic	X	X	X	X	X
Lead styphnate	X	Not listed	Not listed	X	Not listed

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

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 except nitrocellulose (considered a polymer)

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

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: E, T, N

Risk Phrases: R2, R48, R60, R63, R51/53

Safety 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 DSL

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IDL: Antimony, Arsenic, Copper, Lead

CEPA PRIORITIES LIST: None

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

OTHER INTERNATIONAL CHEMICAL INVENTORIES

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

16. OTHER INFORMATION

REVISIONS:

DATE: 02/28/2019

PREPARED BY: Olin Winchester, LLC

OTHER: Additional information available from: www.winchester.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. OLIN BELIEVES THIS INFORMATION TO BE RELIABLE AND CURRENT AS OF THE DATE OF PUBLICATION, BUT

MAKES NO WARRANTY THAT IT IS.