



MATERIAL SAFETY DATA SHEET

Olin MSDS No.: 00088.0001
Revision No.: 10

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

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: FAIL SAFE BULLETS
Chemical Name: Mixture - Metal Alloy
Synonyms: Fail Safe bullets
Chemical Family: Metal mixture
Formula: Not applicable - mixture
Product Use/ Description: Projectile

COMPANY ADDRESS MSDS Control Group
Olin Corporation - Winchester, 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 Iron, Bronze (CDA 226 Alloy), and Lead.

\*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: Dust or fume is toxic, carcinogen, irritant, reproductive and developmental toxin

In solid form, this material is not hazardous. Dust and fumes are hazardous materials.

3. HAZARDS IDENTIFICATION

WARNING!
PARTICLES FROM FIRING MAY BE HARMFUL IF INHALED. DO NOT TAKE INTERNALLY.

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

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

Physical Hazard: None

National Fire Protection Association (NFPA)

Mixture. Not rated.

HUMAN THRESHOLD RESPONSE DATA

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

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

**POTENTIAL HEALTH EFFECTS**

This product is composed of a finished metal alloy solid. 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:

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 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. Exposure to lead can aggravate anemia, cardiovascular and respiratory disease.

**POTENTIAL ENVIRONMENTAL EFFECTS:** Product has not been tested for environmental properties. Lead has been shown to be toxic to aquatic species.

**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	No	Flammable	No
Combustible	No	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)	Not applicable

- UNUSUAL FIRE AND EXPLOSION HAZARDS:** None
- EXTINGUISHING MEDIA:** Not Applicable - Choose extinguishing media suitable for surrounding materials.
- SPECIAL FIREFIGHTING PROCEDURES:** In case of fire, use normal fire fighting equipment. Response to this material requires the use of a self-contained breathing apparatus (SCBA).

**6. ACCIDENTAL RELEASE MEASURES**

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

This material is heavier than and insoluble in water. Do not place spill materials back in their original containers. Containerize and label all spill materials properly. Decontaminate all clothing and the spill area using soap solution and flush with large amounts of water. Use clean shovel or broom to pick up and place in clean container for disposal.

**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 and caustics
- CONDITIONS TO AVOID:** None known.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CAS #	CHEMICAL NAME	ACGIH TLV	OSHA PEL	INTERNATIONAL OELS
7439-89-6	Iron	None established	None established	None established
Mixture	Bronze (CDA 226 Alloy)	None established	None established	None established
7439-92-1	Lead	0.05 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	Austria, Denmark, Germany, Sweden, Switzerland: 0.1 mg/m <sup>3</sup> Norway, Poland: 0.05 mg/m <sup>3</sup>

ENGINEERING CONTROLS: Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation. Use hearing protection.

EYE / FACE PROTECTION: Not normally needed.

SKIN PROTECTION: Not normally needed

RESPIRATORY PROTECTION: Respiratory protection not normally needed.

GENERAL HYGIENE: Wash hands thoroughly after use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

PROPERTY	VALUE	PROPERTY	VALUE
Appearance:	Cylindrical projectile – silver colored if nickel plated, copper colored if copper plated, gray if not plated	Vapor Density (air = 1):	Not applicable
Odor:	None	Boiling Point (°F):	Not applicable
Molecular Weight:	Not applicable - Mixture	Melting point:	Not applicable
Physical State:	Solid	Specific gravity (g/cc):	Not applicable
pH:	Not applicable	Bulk Density	Not applicable
Vapor Pressure (mm Hg):	Not applicable	Viscosity (cps):	Not applicable
Vapor Density	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: Stable under normal temperatures and pressure.

MATERIALS TO AVOID: Acids and caustics

HAZARDOUS DECOMPOSITION PRODUCTS: Metals may liberate hydrogen gas from reaction with acids. Metal oxides, lead dust/fume

HAZARDOUS POLYMERIZATION: Will not occur.

OTHER: None

**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		
		Iron	Bronze Alloy	Lead
Oral LD <sub>50</sub>	Not applicable for product	30 g/kg (rat)	No data	No data
Dermal LD <sub>50</sub>	Not applicable for product	No data	No data	No data
Inhalation LC <sub>50</sub>	Not applicable for product. Particles generated from firing may be slightly toxic.	No data	No data	No data
Irritation	Not a skin or eye irritant as a loaded round.	Eye irritant	No data	Not irritating

SUBCHRONIC/ CHRONIC TOXICITY: Lead has caused blood, kidney and nervous system damage in laboratory animals.

CARCINOGENICITY:

The International Agency for Research on Cancer (IARC) lists lead as possibly carcinogenic to humans, group 2B. In laboratory animal studies, chronic exposure to high concentrations of nickel has caused an increase in lung and nasal tumors. Arsenic is listed as a known human carcinogen by IARC (Group 1), OSHA, NTP and EPA.

MUTAGENICITY:

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

REPRODUCTIVE, TERATOGENICITY, OR DEVELOPMENTAL EFFECTS:

This product is not known or reported to cause reproductive or developmental effects. Lead has been shown to affect fetal development including birth defects and reduce male reproductive function in laboratory animals.

NEUROLOGICAL EFFECTS:

This product is not known or reported to cause neurological effects. Lead has caused peripheral and central nervous system damage and behavioral effects in laboratory animals.

INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY:

None known or reported.

**12. ECOLOGICAL INFORMATION**

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

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

**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 treatment, storage and disposal for hazardous and nonhazardous wastes.

**14. TRANSPORT INFORMATION**

	U.S. DOT	RID/ADR	IMDG	IATA	IMO	Canada TDG
<b>PROPER SHIPPING NAME:</b>	Not regulated					
<b>HAZARD CLASS:</b>						
<b>UN NO.:</b>						
<b>PACKING GROUP:</b>						
<b>HAZARD LABEL/PLACARD:</b>						
<b>REPORTABLE QUANTITY:</b>						
<b>SPECIAL COMMENTS:</b>						

**15. REGULATORY INFORMATION**

*US FEDERAL*

TSCA	The components of this product are listed on the Toxic Substance Control Act inventory.				
CERCLA:	Lead, 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:	Lead				
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
Iron	Not listed	Not listed	Not listed	Not listed	Not listed
Lead	X	X	X	X	X
Bronze alloy	Not listed	Not listed	Not listed	Not listed	Not listed

\* "WARNING: This product contains detectable amounts of a chemical(s) known to the State of California to cause cancer and/or birth defects or other reproductive harm."

#### EUROPEAN REGULATIONS

This material in its solid form is not required to be labeled under EC regulations.

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: Lead

WHMIS: This product is not subject to WHMIS. It is considered to be a manufactured article.

#### 16. OTHER INFORMATION

REVISIONS: 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](http://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.