

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: **BULLETS, FRANGIBLE-DF**
CAS Number: Mixture – Metal Alloy
Synonyms: DF
Product Use: Centerfire Ammunition Projectile
U.N. Number: None
U.N. Dangerous Goods Class Not regulated
Manufacturer: Olin Corporation – Winchester Division, Inc.
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
MSDS Control Group: 618-258-3507 (Technical Information Only)

Olin MSDS No.: 00087.0001

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Revision No.: 02

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: DO NOT TAKE INTERNALLY.

US DOT SYMBOLS

None

CANADA (WHMIS) SYMBOLS

This Product is not subject to WHMIS

GHS HAZARD SYMBOLS

None

GHS Classifications: Hazardous to the Aquatic Environment, Chronic Category 3
Signal Word: None

Hazard Statements: H412: Harmful to aquatic life with long lasting effects

Target organs: None

Precautionary Statements: P273: Avoid release to the environment
P391: Collect spillage
P501: Dispose of product properly

GHS Pictograms: None

EU Classifications:
Hazard Symbols None
Risk Phrases R52/53: Harmful to aquatic organisms and may cause long-term adverse effects
Safety Phrases S61: Avoid release to the environment

Health Hazards or Risks From Exposure

This product is a finished metal alloy bullet. Therefore, under normal handling of this product, no exposure to any harmful materials will occur. The bullet 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.

Zinc stearate: Inhalation of high concentrations of zinc stearate powder can cause a chemical pneumonitis.

It is unlikely that someone would be exposed to a significant amount of copper or zinc stearate from handling these bullets.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% By Weight	CAS Number	EINECS/ ELINCS #
Tungsten	Proprietary	7440-33-7	231-143-9
Copper	Proprietary	7440-50-8	231-159-6
Zinc stearate	0.5 – 1.5	557-05-1	209-151-9

4. FIRST AID MEASURES

Eye Contact: Immediately flush out trace material with water, 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: Not applicable

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.

Recommendations To Physicians:

No specific antidote available, treat symptoms

5. FIRE FIGHTING MEASURES

PROPERTY	VALUE	PROPERTY	VALUE
Explosive	No	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)	Not applicable

Unusual Fire and Explosion Hazards:

Extinguishing Media:

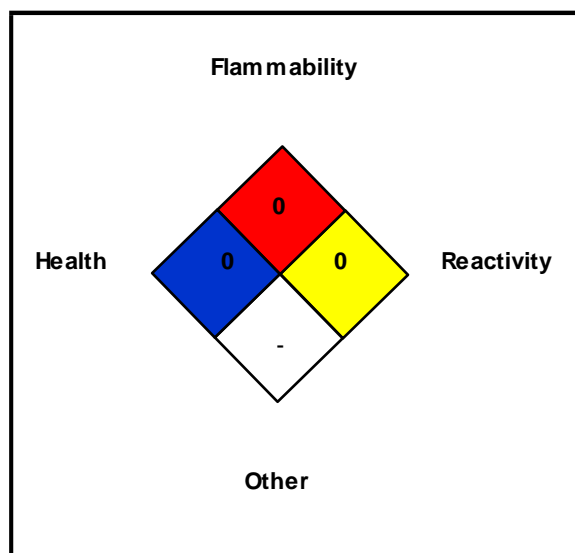
Special Firefighting Procedures:

None.


Choose extinguishing media suitable for surrounding materials.

In case of fire, use normal fire fighting equipment.

NFPA RATING SYSTEM



HMIS RATING SYSTEM

HEALTH HAZARD (BLUE)		0
FLAMMABILITY HAZARD (RED)		0
PHYSICAL HAZARD (YELLOW)		0
PROTECTIVE EQUIPMENT		
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: 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 after handling.

Conditions for Safe Storage: Store in original containers away from acids and caustics.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

CAS #	CHEMICAL NAME	ACGIH TLV	OSHA PEL	INTERNATIONAL OELS
7440-33-7	Tungsten	5 mg/m ³ TWA, 10 mg/m ³ STEL	None established	Denmark, Netherlands, Norway, Poland, U.K.: 5 mg/m ³ TWA Canada (Manitoba and New Brunswick): 5 mg/m ³ TWA, 10 mg/m ³ STEL
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)
557-05-1	Zinc stearate	10 mg/m ³ TWA	15 mg/m ³ TWA (total dust), 5 mg/m ³ TWA (resp. fraction)	None available

Engineering Controls: Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust 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: Not normally needed

Hand Protection: Not normally needed

Skin Protection: Not normally needed.

Hearing Protection: Not normally needed. During loading and unloading use eye protection.

General Hygiene: Wash hands thoroughly after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PROPERTY	VALUE	PROPERTY	VALUE
<i>Appearance:</i>	Cylindrical projectile – copper colored if copper plated, gray if not plated	<i>Physical State:</i>	Solid
<i>Odor:</i>	None	<i>Odor Threshold:</i>	None
<i>Boiling Point (°F):</i>	Not applicable	<i>Melting point:</i>	Not applicable
<i>Vapor Pressure (mm Hg):</i>	Not applicable	<i>Freezing point:</i>	Not applicable
<i>Vapor Density (air = 1):</i>	Not applicable	<i>Bulk Density:</i>	Not available
<i>Specific gravity (g/cc):</i>	Not available	<i>Viscosity (cps):</i>	Not applicable
<i>pH:</i>	Not applicable	<i>Decomposition Temperature:</i>	Not applicable
<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

<u>Stability:</u>	Stable under normal temperatures and pressure.
<u>Possibility of Hazardous Reactions:</u>	Hazardous polymerization will not occur
<u>Incompatible Materials:</u>	Acids and caustics
<u>Hazardous Decomposition Products:</u>	Reaction with acids may liberate explosive hydrogen gas.
<u>Conditions to Avoid:</u>	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		
		Copper	Tungsten	Zinc stearate
Inhalation LC ₅₀	Inhalation unlikely	No data	> 5 mg/l, 4 hour (rat)	> 200 mg/L, 1 hour (rat)
Skin Contact LD ₅₀	Skin absorption unlikely	375 mg/kg, sc (rabbit)	> 2 g/kg (rabbit)	> 2 g/kg (rabbit)
Ingestion LD ₅₀	Ingestion unlikely	3.5 mg/kg, ip (mouse)	5 g/kg, ip (rat)	> 5 g/kg (rat)
Irritation	Not a skin or eye irritant as a solid.	Respiratory irritant	Mild eye and skin irritant	Not irritating to eyes or skin; respiratory irritant
Sensitization	Sensitization to this Product has not been reported	No data	No data	No data

Other Adverse Effects:

<u>Target Organ Toxicity:</u>	No reported target organ toxicity from this product. Inhalation of high concentrations of zinc stearate powder can cause a chemical pneumonitis
<u>Reproductive Toxicity:</u>	This product is not known or reported to cause reproductive effects.
<u>Teratogenicity (Birth Defects):</u>	This product is not known or reported to cause developmental toxicity.
<u>Mutagenicity:</u>	This product is not known or reported to be mutagenic.
<u>Carcinogenicity:</u>	This product is not listed as a carcinogen by OSHA, NTP or IARC.

12. ECOLOGICAL INFORMATION

Environmental Effects:

PRODUCT: Product has not been tested for environmental properties.

COMPONENTS:

<u>Copper:</u>	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.
<u>Zinc stearate:</u>	Daphnia magna: EC50 > 100 mg/L (M7 medium, pH 6 and 8); Freshwater fish: No effects were observed up to the water solubility limit (1 mg/L) or at nominal concentrations 3 to 4 orders of magnitude higher. 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 INFORMATIONRegulatory Information for US DOT, IATA, IMO, and ADR:

Proper Shipping Name: None This material is not regulated as a DOT hazardous material.
Hazard Class Number and Description: None
UN Identification Number: None
Packing Group: None
DOT Label(s) Required: None
Additional Information: None

15. REGULATORY INFORMATIONUS FEDERAL

TSCA	The components of this product are listed on the Toxic Substance Control Act inventory.				
CERCLA:	Copper, R.Q.* = 5000 lbs.; Zinc compounds, 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 311/312:	<u>Health:</u>	Acute – No Chronic - No	<u>Fire:</u> No	<u>Reactivity:</u> None	<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
Tungsten	Not listed	Not listed	X	X	Not listed
Copper	Not listed	X	X	X	X
Zinc stearate	Not listed	Not listed	X	X	Not listed

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

No components listed

GHS CLASSIFICATION

Hazardous to the Aquatic Environment, Chronic Category 3

EUROPEAN REGULATIONS

All chemical components listed on EINECS

Hazard Classification

Danger Symbols: None
Risk Phrases: R52/53
Safety Phrases: S61
German WGK Classification: Not known.

CANADIAN REGULATIONS

DSL/NDSL Inventory: The components of this product are on the DSL
IDL: Copper, Tungsten, Zinc stearate
CEPA PRIORITIES LIST: None
WHMIS: This product is considered to be a manufactured article and therefore not subject to WHMIS requirements.

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: 02
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.