Olin WINCHESTER AMMUNITION

MATERIAL SAFETY DATA

EMERGENCY PHONE: 1-888-2891-911

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THIS PRODUCT MAY BE CONSIDERED TO BE A HAZARDOUS CHEMICAL UNDER THAT STANDARD. (REFER TO THE OSHA CLASSIFICATION IN SEC. I.) THIS INFORMATION IS REQUIRED TO BE DISCLOSED FOR SAFETY IN THE WORKPLACE. THE EXPOSURE TO THE COMMUNITY, IF ANY, IS QUITE DIFFERENT.

I – Product Identification

Product Name:	**BASIC LEAD STYPHNATE**
Synonyms:	Lead hydroxide styphnate, lead hydroxide 2,4,6 trinitroresorcinate
Chemical Family:	Styphnic acid salt
Formula:	$C_6H(NO_2)_3(OPbOH)_2$
Description:	Initiating explosive
Hazard Classification:	Explosive, Skin and eye irritant; lung, kidney, nervous system, blood and reproductive toxin; highly toxic, carcinogen.
Revision No.:	1
Revision Date:	1-1-2000
Olin MSDS No.:	00079.0001

II – Component Data

Product Composition

CAS or Chemical Name:	Basic Lead Styphnate				
CAS Number:	12403-82-6				
Percentage Range:	100%				
Hazardous Per 29 CFR 1910.1200:	Yes				
Exposure Standards: As Inorganic Pb		OSHA (PEL)		ACGIH(TLV)	
		ppm	mg/m^3	ppm	mg/m^3
	TWA:	N/A	0.05	N/A	0.15
	CEILING:	None	None	None	None
	STEL:	None	None	None	None

III – Precautions for Safe Handling and Storage

DO NOT TAKE INTERNALLY. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. UPON CONTACT WITH SKIN OR EYES, WASH OFF WITH WATER.

STORAGE CONDITIONS:

STORE IN A COOL, DRY, WELL VENTILATED PLACE, AWAY FROM ALL SOURCES OF IGNITION.
DO NOT STORE AT TEMPERATURES ABOVE: 65.5 Deg.C (150 Deg.F)
DO NOT SUBJECT TO MECHANICAL SHOCK.

PRODUCT STABILITY AND COMPATIBILITY:

SHELF LIFE LIMITATIONS:	2 years
INCOMPATIBLE MATERIALS FOR PACKAGING:	Store as prescribed by Bureau of Alcohol, Tobacco and Firearms guidelines for explosive storage.
INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT:	Class B & C explosives, strong oxidizers, acids, and caustics.

IV – Physical Data

Appearance:	Rectangular plates
Freezing Point:	Not Applicable
Boiling Point:	Not Applicable
Decomposition Temperature:	EXPLODES at 330 Deg.C (626 Deg.F)
Specific Gravity:	3.878
Bulk Density:	1.5 (g/cc)
pH @ 25° C:	6-7 (solution)
Vapor Pressure @ 25° C:	Not Applicable
Solubility in Water:	< 0.01%
Volatiles, Percent by Volume:	Not Applicable
Evaporation Rate:	Not Applicable
Vapor Density:	Not Applicable
Molecular Weight:	705.53
Odor:	None
Coefficient of Oil/Water Distribution:	No Data

V – Personal Protective Equipment Requirements

Personal Protection for Routine Use of Product:

Respiratory Protection:	If air concentrations above the TLV are possible, wear a NIOSH approved respirator.
Ventilation:	Use local exhaust ventilation to maintain dust levels to below the TLV.
Sin Protective Equipment:	Wear gloves, boots, chemical goggles, aprons or impermeable suit to avoid skin and eye contact.

Equipment Specifications (When Applicable):

Respirator Type:	NIOSH approved HEPA filter
Protective Clothing Type: (This includes: gloves, boots, apron, protective suit.)	Impervious

VI – Fire and Explosion Hazard Information

Flammability Data:

Flammable:	No
Combustible:	No
Pyrophoric:	No
Explosive:	YES
Flash Point:	Not Applicable
Autoignition Temperature:	No data
Flammable Limits at Normal Atmospheric Temperature and Pressure (Percent Volume in Air):	LEL - Not Applicable UEL - Not Applicable

NFPA Ratings: Not Established

HMIS Ratings:

Health:	3
Flammability:	1
Reactivity:	4

Extinguishing Media:

Water spray. Apply by mechanical means only. Fight all fires from an explosion resistant location. Evacuate all non-essential personnel.

Fire Fighting Techniques and Comments:

Use water to cool containers exposed to fire. See Section XI for protective equipment for fire fighting. Do not move material exposed to or involved in a fire. Use extreme caution working around this material and avoid any form of mechanical shock. Keep material wet if possible. "DO NOT ALLOW TO DRY." Material involved in a fire may not be totally destroyed and will still be subject to detonation.

VII – Reactivity Information

Conditions Under Which This Product May Be Unstable:

Temperatures Above:	EXPLODES at 330 Deg.C (626 Deg.F)
Mechanical Shock or Impact:	Yes
Electrical (Static) Discharge:	Yes
Hazardous Polymerization:	Will not occur
Incompatible Materials:	Strong acids and caustics
Hazardous Decomposition:	Carbon monoxide and nitrogen oxides, lead fumes
Other Conditions to Avoid:	Do not handle dry material except in extremely small amounts.

Summary of Reactivity:

Oxidizer:	No
Pyrophoric:	No

Organic Peroxide:	No
Water Reactive:	No
Other:	EXTREMELY SENSITIVE INITIATING EXPLOSIVE

VIII – First Aid

Eyes

Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.

Skin

Immediately flush with water for 15 minutes. Call a physician. If clothing comes in contact with the product, the clothing should be removed immediately and should be laundered before re-use.

Ingestion

Immediately drink large quantities of water. Induce vomiting. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

Inhalation

If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Call a physician. In the event that an individual inhales enough vapor to lose consciousness, person should be moved to fresh air at once and a physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

IX – Toxicology and Health Information

Routes of Absorption

Inhalation, ingestion, skin and eye contact

Warning Statements and Warning Properties

MAY BE FATAL IF INHALED OR INGESTED. HARMFUL IF EXPOSED TO SKIN NO EYES.

Human Threshold Response Data

Odor Threshold:	No data
Irritation Threshold:	No data
Immediately Dangerous to Life or Health:	The IDLH concentration has not been established.

Signs, Symptoms and Effects of Exposure

Inhalation

Acute:	May cause irritation to nose, throat, upper respiratory tract and lungs. The irritant effects may lead to bronchitis. Headache, a fall in blood pressure, weakness, convulsions, and collapse may occur. Severe poisoning may impair vision by damaging the optic nerve.
Chronic:	Inhalation may cause damage to central and peripheral nerves, blood, kidneys, and the fetus. Male reproductive function may be impaired. Damage to nerves can result in reduction in motor nerve and muscle function. Anemia may result due to interference by lead of hemoglobin synthesis. Lead has been identified as an animal carcinogen; it may produce cancer in humans. Chronic exposure may lead to lead poisoning, known as "Plumbism", causing gingival lead line and an accumulation in body tissues.

Skin

Acute:	Irritation. This material can be absorbed through the skin to produce effects similar to those listed for acute inhalation exposure.
Chronic:	The effects would be similar to those listed under chronic inhalation exposure.

Eye

Irritation with conjunctival redness and discharge. There are no reports of permanent damage from exposure directly to the eye.

Ingestion

Acute:	The effects would be similar to those listed under acute inhalation exposure in addition to gastrointestinal tract irritation.
Chronic:	The effects would be similar to those listed under chronic inhalation exposure.

Medical Conditions Aggravated by Exposure

Anemia, cardiovascular and respiratory disease

Interactions With Other Chemicals Which Enhance Toxicity

There are no chemicals known to enhance the toxicity of the product.

Animal Toxicology

Acute Toxicity

Inhalation LC 50:	No data
Dermal LD 50:	No data
Oral LD 50:	No data
Irritation:	Irritant to skin and eyes

Acute Target Organ Toxicity

Damage to central nervous system, blood, lungs and eyes.

Chronic Target Organ Toxicity

Inhalation of lead can cause damage to the blood, central and peripheral nervous systems, and kidney. Lead inhibits the production of hemoglobin, the material in the blood which carries oxygen. Anemia may result. Lead also causes damage to peripheral nerves resulting in a decrease in motor nerve and muscle function.

Reproductive and Developmental Toxicity

Lead has been shown to affect fetal development and reduce male reproductive function. Lead crosses the placenta and may affect the fetus causing birth defects, mental retardation, behavioral disorders, and death during the first year of childhood.

Carcinogenicity

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. However, lead is recognized as an animal carcinogen by IARC.

Mutagenicity

This product is not known or reported to be mutagenic.

Aquatic Toxicity

The LC 50 of lead (48 hrs.) to bluegill (Lepomis macrochirus) is reported to be 2-5 mg/l.

X – Transportation Information

This material is regulated as a DOT hazardous material.

DOT Description from the Hazardous Materials Table 49 CFR 172.101:

Land (U.S. DOT):	Lead Styphnate, Wetted 1.1A, UN 0130, PG II
Water (IMO):	Same as land
Air (IATA/ICAO):	Forbidden
Hazard Label/Placard:	1.1A
Reportable Quantity:	Not Applicable (Per 49 CFR 172.101, Appendix)
Emergency Guide No.:	112
Special Comments:	FORBIDDEN ON PASSENGER OR CARGO ONLY AIRCRAFT. FORBIDDEN ON PASSENGER VESSEL. SUBJECT TO 49 CFR 176.84 STOWAGE E AND CODES 2E, 6E.

XI – Spill and Leakage Procedures

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

Reportable Quantity:	(Per 40 CFR 302.4) Not Applicable

Spill Mitigation Procedures:

THIS PRODUCT WILL REPRESENT AN EXPLOSION HAZARD. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel.	
Air Release:	Not Applicable
Water Release:	Not Applicable
Land Spill:	Not Applicable
Other:	A spill of this material will require extreme caution. Keep material wet at all times. If a large spill occurs create a dike and flood with large amounts of water.

Spill Residues:

Dispose of per guidelines under Section XII, WASTE DISPOSAL.

Personal Protection for Emergency Spill and Fire-fighting Situations:

No extra protection required beyond that listed in Section V (In case of fire, use normal fire fighting equipment).

XII – Waste Disposal

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.

If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly.

As a hazardous solid waste, it must be disposed of in accordance with local, state, and federal regulations in a permitted hazardous waste treatment, storage and disposal facility by treatment.

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.

XIII – Additional Regulatory Status Information

Toxic Substances Control Act:

The components of this product are listed on the Toxic Substance Control Act inventory.

Superfund Amendments and Reauthorization Act Title III:

HAZARD CATEGORIES, PER 40 CFR 370.2:
HEALTH:
  Immediate (Acute)
  Delayed (Chronic)
PHYSICAL: Sudden release of pressure

Emergency Planning and Community Right to Know, Per 40 CFR 355, APP. A:

EXTREMEMLY HAZARDOUS SUBSTANCE – THRESHOLD PLANNING QUANTITY: None Established

California Safe Drinking Water and Toxic Enforcement Act of 1986 – Proposition 65:

"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."

Supplier Notification Requirements, Per 40 CFR 372.45:

This mixture or tradename product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

CHEMICALS LISTED ARE: Lead Compounds

XIV – Additional Information

MSDS REVISION STATUS: New format and grouping. Address and phone numbers revised.

XV – Major References

1. Grant, W. Morton, Toxicology of the Eye, 2nd Edition, Springfield, IL: Charles C. Thomas, 1974.
2. McKee, Jack E. and Harold W. Wolf, Eds., Water Quality Criteria, NTIS PB Report; (PB-82-188244), 2nd Ed., Springfield, VA: National Technical Information Services, 1963.
3. Encyclopedia of Explosives and Related Items, Basil Fedoroff, Picatinny Arsenal, Dover, NJ 1972. #22

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