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MATERIAL SAFETY DATA SHEET

MANUFACTURED BY: GENERAL ELECTRIC CO. SILICONE PRODUCTS DIV. WATERFORD, NY 12188  
EMERGENCY TELEPHONE (24 HRS) (518) 237-3330  
REVISED: 10/21/85  
PREPARER: DA POLSINELLI  
SF96-50

\*\*\*\*\* I PRODUCT IDENTIFICATION \*\*\*\*\*

PRODUCT IDENTIFICATION: PALMER PLUNGER LUBE  
PRODUCT IDENTIFICATION SF96-50 CHEMICAL FAMILY: POLYSILOXANES  
CHEMICAL NAME: DIMETHYLPOLYSILOXANES FORMULA: SILICONE FLUID

\*\*\*\*\* II PRODUCT COMPONENTS \*\*\*\*\*

PRODUCT COMPOSITION	APPROX. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
NONE	NA	NA	NA	NA	NA
B. NON-HAZARDOUS					
**PRODUCT INFORMATION	NA	NA	NA	NA	NA

\*\*\*\*\* III PHYSICAL DATA \*\*\*\*\*

\*\*PRODUCT INFORMATION  
BOILING POINT >400 ( F ) >204 ( C )  
PHYSICAL STATE LIQUID  
VAPOR PRESSURE (20 C) NEG. MM HG  
ODOR ODORLESS  
VAPOR DENSITY (AIR=1) NONE  
COLOR CLEAR  
SOLUBILITY IN WATER (20 C) INSOLUBLE PH UNKNOWN  
SOLUBILITY IN ORGANIC SOLVENT ACIDITY/ALKALINITY NEUTRAL MEG/G  
(STATE SOLVENT) SOLUBLE, TOLUENE  
FREEZING POINT NA ( F ) NA ( C ) DENSITY 958.5 KG/M3  
MELTING POINT NA ( F ) NA ( C ) SPECIFIC GRAVITY (WATER=1) 0.97  
% VOLATILE BY VOLUME <1 EVAPORATION RATE (BUTYL ACETATE=1) NONE

\*\*\*\*\* IV FIRE AND EXPLOSION DATA \*\*\*\*\*

FLASH POINT >400 ( F ) >204 ( C ) BY PMCC IGNITION TEMP UNK ( F ) UNK ( C )  
FLAMMABLE LIMITS IN AIR (%): LOWER NA UPPER NA  
EXTINGUISHING MEDIA:  
ALL STANDARD FIREFIGHTING MEDIA  
DRY CHEMICAL  
SPECIAL FIREFIGHTING PROCEDURES:  
NONE KNOWN.

\*\*\*\*\* V REACTIVITY DATA \*\*\*\*\*

STABILITY: X STABLE UNSTABLE HAZARDOUS: POLYMERIZATION WILL NOT OCCUR  
HAZARDOUS DECOMPOSITION PRODUCTS:  
CARBON MONOXIDE.  
CARBON DIOXIDE.  
FORMALDEHYDE.

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INCOMPATIBILITY (MATERIALS TO AVOID):  
NONE KNOWN.  
CONDITIONS TO AVOID:  
NONE KNOWN.

## \*\*\*\*\* VI HEALTH HAZARD DATA \*\*\*\*\*

## ACUTE SIGNS/EFFECTS OF OVEREXPOSURE:

## INGESTION:

NONE KNOWN

## SKIN CONTACT:

NONE KNOWN.

## INHALATION:

NONE KNOWN.

## EYE CONTACT:

MAY CAUSE MILD EYE IRRITATION.

## MEDICAL CONDITIONS AGGRAVATED:

NONE KNOWN.

## OTHER:

NONE KNOWN.

## CHRONIC EFFECTS OF OVEREXPOSURE:

NONE KNOWN.

## EMERGENCY AND FIRST AID PROCEDURES:

## INGESTION:

NONE KNOWN.

## SKIN:

WASH WITH SOAP AND WATER.

## INHALATION:

NONE KNOWN.

## EYES:

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER  
FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IF IRRITATION  
PERSISTS.

## NOTE TO PHYSICIAN:

NONE KNOWN.

## TOXICITY: \*\*PRODUCT INFORMATION

ACUTE ORAL LD50 &gt;40,000 MG/KG

ACUTE DERMAL LD50 NONE FOUND MG/KG

ACUTE INHALATION LC50 &gt;535 MG/L (RAT)

## OTHER

NON-IRRITATING TO SKIN (RBT).

AMES TEST: UNKNOWN

## PRINCIPAL ROUTES OF EXPOSURE:

NONE KNOWN.

## PRODUCTS/INGREDIENTS:

NONE KNOWN.

## \*\*\*\*\* VII SPECIAL PROTECTIVE EQUIPMENT \*\*\*\*\*

## RESPIRATORY PROTECTION:

NONE KNOWN.

## PROTECTIVE GLOVES:

NONE KNOWN.

## EYE AND FACE PROTECTION:

SAFETY GLASSES.  
OTHER PROTECTIVE EQUIPMENT:  
NONE KNOWN.  
VENTILATION:  
NONE KNOWN.

\*\*\* VIII SPILL, LEAK AND DISPOSAL PROCEDURES \*\*\*  
ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:  
WIPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR  
DISPOSAL.  
WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIP-  
PING HAZARD.  
DISPOSAL METHOD:  
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND  
LOCAL REGULATIONS.  
INCINERATION RECOMMENDED.

\*\*\*\*\* IX SPECIAL PRECAUTIONS \*\*\*\*\*  
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:  
NONE KNOWN.  
ENGINEERING CONTROLS:  
NONE KNOWN.

\*\* X SHIPPING AND REGULATORY CLASSIFICATION DATA \*\*

DOT SHIPPING NAME: NONE UN/NA NUMBER: NONE  
DOT HAZARD CLASS: NONE  
DOT LABEL(S): NONE  
EPA HAZARD WASTE: NONE  
OSHA HAZARD CLASS: NONE  
CPSC CLASSIFICATION: NONE  
TRANSPORTATION CLASS: IMO NONE  
RID (OCTI) NONE  
ADR (ECE) NONE  
RAR (IATA) NONE

NFPA/HMIS CLASSIFICATION: FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 0  
ADDITIONAL INFORMATION:

THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF  
EXISTING COMMERCIAL CHEMICALS (EINECS).  
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT  
AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR  
IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE  
BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD  
REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE  
INTENDED USE.



# MATERIAL SAFETY DATA

OCEAN NETWORK EMERGENCY PHONE 1-800-OLIN-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.

PRODUCT IDENTIFICATION: For PALMER CAP-CHUR CHARGES

## I. PRODUCT IDENTIFICATION

REVISION NO : 3  
REVISION DATE : 1/01/91  
PRODUCT CODE : DPE020000  
FILE NUMBER : DPE00165.0001  
PRODUCT NAME: CENTER FIRE PRIMERS  
SYNONYMS: 1 1/2, 8 1/2 Primer  
CHEMICAL FAMILY: Mixture  
FORMULA: Not Applicable/Mixture  
DESCRIPTION: Small Arms Ammunition Primer  
OSHA HAZARD CLASSIFICATION: Explosive, irritant to skin and eyes.

## II. COMPONENT DATA

### PRODUCT COMPOSITION

CAS or CHEMICAL NAME: Brass alloy 260

CAS NUMBER: Not Assigned/Mixture

PERCENTAGE RANGE: 85-89%

HAZARDOUS PER 29 CFR 1910.1200: Considered non-hazardous so long as used in such a manner as not to produce dust or fumes.

EXPOSURE STANDARDS: (See reference number 24, Section XV; Olin MSDS for Alloy 260.)

CAS or CHEMICAL NAME: Lead styphnate

CAS NUMBER: 15245-44-0

PERCENTAGE RANGE: 4-6%

HAZARDOUS PER 29 CFR 1910.1200: Yes

EXPOSURE STANDARDS:

	OSHA (PEL)		ACGIH (TLV)	
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:		0.05		0.15
CEILING:	None		None	
STEL:	None		None	

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CAS or CHEMICAL NAME: Barium nitrate  
CAS NUMBER: 10022-31-8  
PERCENTAGE RANGE: 3.5-4.2%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: as Barium

OSHA (PEL)  
ppm mg/cubic-meter  
TWA: 0.5  
CEILING: None  
STEL: None

ACGIH (TLV)  
ppm mg/cubic-meter  
0.5  
None  
None

CAS or CHEMICAL NAME: Antimony sulfide  
CAS NUMBER: 1345-04-6  
PERCENTAGE RANGE: 1.5-2.5%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: as Antimony

OSHA (PEL)  
ppm mg/cubic-meter  
TWA: 0.5  
CEILING: None  
STEL: None

ACGIH (TLV)  
ppm mg/cubic-meter  
0.5  
None  
None

CAS or CHEMICAL NAME: Pentaerythrite tetranitrate  
CAS NUMBER: 78-11-5  
PERCENTAGE RANGE: 0.4-0.8%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: Aluminum  
CAS NUMBER: 7429-90-5  
PERCENTAGE RANGE: 0.5-0.7%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS:

OSHA (PEL)  
ppm mg/cubic-meter  
TWA: 15  
CEILING: None  
STEL: None

ACGIH (TLV)  
ppm mg/cubic-meter  
10  
None  
None

CAS or CHEMICAL NAME: Tetracene  
CAS NUMBER: 109-27-3  
PERCENTAGE RANGE: 0.5-0.7%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: None Established



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**MATERIAL  
SAFETY DATA**

CAS or CHEMICAL NAME: Lead thiocyanate  
CAS NUMBER: 592-87-0  
PERCENTAGE RANGE: 0.4-0.6%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: as Pb

	OSHA(PEL)	ACGIH(TLV)		
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:	0.05	0.15		
CEILING:	None	None		
STEL:	None	None		

CAS or CHEMICAL NAME: Nickel  
CAS NUMBER: 7440-02-0  
PERCENTAGE RANGE: 0.03-0.06%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS:

	OSHA(PEL)	ACGIH(TLV)		
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:				
INSOLUBLE	1	1		
SOLUBLE	0.1	0.1		
CEILING:	None	None		
STEL:	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 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: Indefinite at 50-90 Deg.F and 35% Relative humidity

INCOMPATIBLE MATERIALS FOR PACKAGING: Package only in DOT approved containers.

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: Class A & B explosives, strong oxidizers, acids and caustics

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#### IV. PHYSICAL DATA

APPEARANCE: Brass cup assembly  
FREEZING POINT: Not Applicable  
BOILING POINT: Not Applicable  
DECOMPOSITION TEMPERATURE: 82 Deg.C (180 Deg.F)  
SPECIFIC GRAVITY: Not Applicable  
BULK DENSITY: Not Applicable  
pH @ 25 DEG.C: Not Applicable  
VAPOR PRESSURE @ 25 DEG.C: Not Applicable  
SOLUBILITY IN WATER: Not Applicable  
VOLATILES, PERCENT BY VOLUME: Not Applicable  
EVAPORATION RATE: Not Applicable  
VAPOR DENSITY: Not Applicable  
MOLECULAR WEIGHT: Not Applicable  
ODOR: None  
COEFFICIENT OF OIL/WATER DISTRIBUTION: Not Applicable

#### V. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

**PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:**

**RESPIRATORY PROTECTION:** Respiratory protection not normally needed. If significant dusting occurs, wear a NIOSH/MSHA approved dust respirator.

**VENTILATION:** Local exhaust ventilation is recommended if significant dusting occurs. Otherwise, use general exhaust ventilation.

**SKIN PROTECTIVE EQUIPMENT:** Impermeable gloves

**OTHER:** Safety glasses

**EQUIPMENT SPECIFICATIONS (WHEN APPLICABLE):**

**RESPIRATOR TYPE:** NIOSH/MSHA approved high efficiency dust respirator.  
**PROTECTIVE CLOTHING TYPE** (This includes: gloves, boots, apron, protective suit): Impervious

#### VI. FIRE AND EXPLOSION HAZARD INFORMATION

**FLAMMABILITY DATA:**

**FLAMMABLE:** Not Applicable  
**COMBUSTIBLE:** Not Applicable  
**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



## MATERIAL SAFETY DATA

NFPA RATINGS: Not Established:

HMS RATINGS:

Health: 1  
Flammability: 0  
Reactivity: 3

EXTINGUISHING MEDIA: Water spray Apply by mechanical means only. Fight all fires from a remote and explosion resistant site. 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.

### VII. REACTIVITY INFORMATION

CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE:

TEMPERATURES ABOVE: 82 Deg.C (180 Deg.F)

MECHANICAL SHOCK OR IMPACT: Yes

ELECTRICAL (STATIC) DISCHARGE: Yes

OTHER: Friction

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Acids, caustics, strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides, carbon monoxide

OTHER CONDITIONS TO AVOID: None known

SUMMARY OF REACTIVITY:

OXIDIZER: No

PYROPHORIC: No

ORGANIC PEROXIDE: No

WATER REACTIVE: No

OTHER: EXPLOSIVE

### VIII. FIRST AID

EYES: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation develops, call a physician.

SKIN: May cause minor skin irritation. Cleanse skin by washing with soap and water.



INGESTION: Immediately drink water to dilute. Consult a physician if symptoms develop.

INHALATION: Not a likely route of exposure.

## IX. TOXICOLOGY AND HEALTH INFORMATION

### ROUTES OF ABSORPTION

Ingestion, skin and eye contact

### WARNING STATEMENTS AND WARNING PROPERTIES

MAY BE HARMFUL IF INGESTED OR UPON SKIN OR EYE CONTACT.

### HUMAN THRESHOLD RESPONSE DATA

ODOR THRESHOLD: No available data

IRRITATION THRESHOLD: No available data

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: The IDLH concentration has not been established.

### SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE

#### INHALATION

##### ACUTE:

The product is a solid pellet. It is judged that the physical nature would preclude inhalation.

##### CHRONIC:

The product is a solid pellet. It is judged that the physical nature would preclude inhalation.

#### SKIN

##### ACUTE:

Skin contact may cause irritation consisting of transient redness. This irritant effect would not result in permanent damage.

##### CHRONIC:

No effects expected except those listed under acute skin contact.

#### EYE

Contact with the eyes would be expected to cause irritation consisting of reversible redness, swelling, and mucous discharge to the conjunctiva. No corneal involvement or visual impairment would be expected.

#### INGESTION

##### ACUTE:

If ingested, gastroenteritis may occur with nausea, vomiting, lethargy, and diarrhea.

##### CHRONIC:

No effects expected except those listed under acute ingestion.



## MATERIAL SAFETY DATA

### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

None known or reported.

### INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY:

None known or reported.

### ANIMAL TOXICOLOGY

#### ACUTE TOXICITY:

Inhalation LC 50: No available data

Dermal LD 50: No available data

Oral LD 50: No available data

Irritation: No available data

#### ACUTE TARGET ORGAN TOXICITY:

Skin and eyes

#### CHRONIC TARGET ORGAN TOXICITY:

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. Soluble barium compounds can affect muscle contractility adversely affecting smooth muscle and the heart. Antimony can damage the heart, liver, and kidneys. It is judged that the low percentage of these substances in, and the physical nature of, the product would preclude the development of these effects.

#### 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. It is judged that the low percentage of lead in, and the physical nature of, the product would preclude the development of these effects.

#### 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 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:  
SMALL ARMS PRIMER

REPORTABLE QUANTITY: 100 lbs. (45.4 kg) (Per 49 CFR 172.101, Appendix)  
(See Special Comments Below)

The material described above is subject to the U.S. DOT HAZARDOUS MATERIALS REGULATIONS via the modes and packaging quantities indicated below with the letter "x":

MODE	PACKAGING QUANTITIES	
<input checked="" type="checkbox"/> Rail	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk
<input checked="" type="checkbox"/> Motor	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk
<input checked="" type="checkbox"/> Water	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk
<input checked="" type="checkbox"/> Air	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk

The applicable packaging section in 49 CFR is 173.107.

SPECIAL COMMENTS: The REPORTABLE QUANTITY is applicable only if the centerfire primers have become a hazardous waste.

**XI. SPILL AND LEAKAGE PROCEDURES**

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

REPORTABLE QUANTITY: Per 40 CFR 302.4 as lead thiocyanate (100 lbs.)

SPILL MITIGATION PROCEDURES: This product may 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 normally not require emergency response team capabilities. If however, a large spill occurs, contact OCEAN at 1-800-OLIN-911. At all times, use non-sparking tools and do not subject materials to mechanical shock.



# MATERIAL SAFETY DATA

## 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 material becomes a waste, it can be sent to metal reclamation.

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)

##### PHYSICAL:

Sudden release of pressure

### EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APP.A:

#### EXTREMELY HAZARDOUS SUBSTANCE - THRESHOLD PLANNING QUANTITY:

None Established

#### 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: Antimony compounds, barium compounds, lead compounds

#### XIV. ADDITIONAL INFORMATION

No Additional Information

#### XV. MAJOR REFERENCES

1. ACGIH Guide to Protective Clothing. Cincinnati, OH: American Conference of Government Industrial Hygienists, 1987.
2. ANSI Z88.2. Recommended Practice for Respiratory Protection. American National Standards Institute, New York, NY.
3. Baker, C. J., The Fire Fighter's Handbook of Hazardous Materials, 4th Ed., Indiana: Maltese Enterprises, Inc., 1984.
4. Bretherick, L., Handbook of Reactive Chemical Hazards, 3rd Ed., Boston, MA: Butterworths, 1985.
5. Casarett, L. and J. Doull, Eds., Toxicology: The Basic Science of Poisons, 3rd Ed., New York: Macmillan Publishing Co., Inc. 1986.
6. CERIS (Chemical Emergency Response Information System) On Line Database. Association of American Railroads.
7. Chemical Degradation and Permeation Database and Selection Guide for Resistant Protective Materials. Austin, TX.
8. Clayton, G. and F. Clayton, Eds., Patty's Industrial Hygiene and Toxicology, Vol. 2A-C 3rd Ed., New York: John Wiley & Sons, 1981-1982.
9. Code of Federal Regulations, Titles 21, 29, 40 and 49. Washington, DC: U.S. Government Printing Office.
10. Fire Protection Guide on Hazardous Materials, 9th Ed., National Fire Protection Association, Batterymarch Park, Quincy, MA, 1986.
11. Gosselin, R., et al., Gosselin-Clinical Toxicology of Commercial Products, 5th Ed., Baltimore: Williams and Wilkins, 1984.
12. Grant, W. Morton, M.D., Toxicology of the Eye, 2nd Ed., Springfield, IL: Charles C. Thomas, 1974.
13. Hazardline, Occupational Health Services Inc., New York, NY.
14. IARC Monogram on the Evaluation of Carcinogenic Risk of Chemicals to Man., Geneva: World Health Organization, International Agency for Research on Cancer.
15. Lenga, R., The Sigma-Aldrich Library of Chemical Safety Data, 1st Ed., Milwaukee, WI: Sigma-Aldrich Corporation, 1985.
16. Lewis, R. and D. Sweet, Eds., Registry of Toxic Effects of Chemical Substances, 1985-1986, Washington, DC: U.S. Government Printing Office, 1987.
17. Medline, U.S. National Library of Medicine, Bethesda, MD.
18. 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.
19. NIOSH Pocket Guide to Chemical Hazards. Washington, DC: U.S. Government Printing Office, 1985.
20. Olin Respiratory Protection Manual.



## MATERIAL SAFETY DATA

21. Sax, N. Irving, Dangerous Properties of Hazardous Materials 6th Ed., New York: Van Nostrand Reinhold Company, 1984.
22. Threshold Limit Values and Biological Exposure Indices for 1988-89. Cincinnati, OH: American Conference of Government Industrial Hygienists, 1987.
23. Toxic Substances Control Act Inventory, Washington, DC: U.S. Government Printing Office, 1986.
24. Olin Material Safety Data Sheet for Alloy 260, MSDS file number BPE00077.0011.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET 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 UP TO DATE AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MATERIAL SAFETY DATA SHEET IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT OLIN AT THE PHONE NUMBER LISTED BELOW TO MAKE CERTAIN THAT THIS SHEET IS CURRENT.

OLIN MSDS CONTROL GROUP  
Olin Corporation  
120 Long Ridge Road  
Stamford, CT 06904

Phone Number: (203) 356-3449

OLIN CORPORATION SUBSIDIARIES AND AFFILIATED ENTITIES: ASAHI-OLIN LTD., BRIDGEPORT BRASS CORPORATION, INDY ELECTRONICS, INC., OLIN CHLORATE CORPORATION, OLIN FABRICATED METAL PRODUCTS INC., OLIN HUNT SPECIALTY PRODUCTS INC., OLIN ELECTRONICS TECHNOLOGY, OLIN MESA CORP., OLIN SPECIALTY METALS CORPORATION, PACIFIC ELECTRO DYNAMICS, INC., PHYSICS INTERNATIONAL COMPANY, ROCKET RESEARCH COMPANY, OCG MICROELECTRONIC MATERIALS, INC.

DPE020000



# MATERIAL SAFETY DATA

OCEAN NETWORK EMERGENCY PHONE 1-800-OLIN-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.

PRODUCT IDENTIFICATION: PALMER POWER LOADS (.22 Blank Loads)

## I. PRODUCT IDENTIFICATION

REVISION NO : 3  
REVISION DATE : 3/23/92  
PRODUCT CODE : DPE000093  
FILE NUMBER : DPE00838.0001  
PRODUCT NAME: CARTRIDGE FOR POWER DEVICE

SYNONYMS: Centerfire Powertool Loaded Round, Rimfire Cartridge For Power Device, 22,25,27,32,38 Caliber Powertool Round, Power Load, Blank Power Load and/or Booster, Powder Load

CHEMICAL FAMILY: Not Applicable

FORMULA: Not Applicable

USE DESCRIPTION: Centerfire Powertool Loaded Round contains a Paper Wad which is non-hazardous.

OSHA HAZARD CLASSIFICATION: Explosive

## II. COMPONENT DATA

### PRODUCT COMPOSITION

Consists of the following four components:

COMPONENT	PERCENT	PRODUCT	PRODUCT CODE NUMBER
A) Shellcase	75-85%	Brass 2xxx Series	BPE.020000
B) Propellant	7-13%	Smokeless powder	DPE.090000
C) Priming Mix/Primer	4-7%		
D) Paper Wad	.5-2%		

Additional information may be obtained from Olin for any component of interest. Quote the relevant product code number if applicable.

All percent compositions specified below are based on the entire product.

MAY 6 1993

A) Shellcase

CAS or CHEMICAL NAME: Copper  
CAS NUMBER: 7440-50-8  
PERCENTAGE RANGE: 50-65%  
HAZARDOUS PER 29 CFR 1910.1200: Yes (as dust or fume)  
EXPOSURE STANDARDS:

	OSHA (PEL)		ACGIH (TLV)	
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:		1		1
CEILING:	None		None	
STEL:	None		None	

CAS or CHEMICAL NAME: Zinc  
CAS NUMBER: 7440-66-6  
PERCENTAGE RANGE: 15-30%  
HAZARDOUS PER 29 CFR 1910.1200: Yes (as dust or fume)  
EXPOSURE STANDARDS: As zinc oxide

	OSHA (PEL)		ACGIH (TLV)	
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:		5 (respirable) 10 (total dust)		10
CEILING:	None		None	
STEL:	None		None	

B) Propellant

CAS or CHEMICAL NAME: Nitrocellulose  
CAS NUMBER: 9004-70-0  
PERCENTAGE RANGE: 7-13%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: Nitroglycerin  
CAS NUMBER: 55-63-0  
PERCENTAGE RANGE: .5-2%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS:

	OSHA (PEL)		ACGIH (TLV)	
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:		0.1 (skin)		0.05 (skin)
CEILING:	None		None	
STEL:	None		None	





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**MATERIAL SAFETY DATA**

CAS or CHEMICAL NAME: Dibutyl phthalate  
CAS NUMBER: 84-74-2  
PERCENTAGE RANGE: .5-2%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS:

	OSHA (PEL)		ACGIH (TLV)	
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:		5		5
CEILING:	None		None	
STEL:	None		None	

C) Priming Mix/Primer

CAS or CHEMICAL NAME: Copper (See above)  
CAS NUMBER: 7440-50-8  
PERCENTAGE RANGE: 0-5%

CAS or CHEMICAL NAME: Zinc (See above)  
CAS NUMBER: 7440-66-6  
PERCENTAGE RANGE: 0-2%

CAS or CHEMICAL NAME: Lead styphnate  
CAS NUMBER: 15245-44-0  
PERCENTAGE RANGE: 0-1%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS: as lead (See 29 CFR 1910.1025)

	OSHA (PEL)		ACGIH (TLV)	
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:		0.05		0.15
CEILING:	None		None	
STEL:	None		None	

CAS or CHEMICAL NAME: Barium nitrate  
CAS NUMBER: 10022-31-8  
PERCENTAGE RANGE: 0-1%  
HAZARDOUS PER 29 CFR 1910.1200: Yes  
EXPOSURE STANDARDS:

	OSHA (PEL)		ACGIH (TLV)	
	ppm	mg/cubic-meter	ppm	mg/cubic-meter
TWA:		0.5		0.5
CEILING:	None		None	
STEL:	None		None	

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D) Paper Wad  
Non-hazardous product

### 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: Not Applicable

DO NOT SUBJECT TO MECHANICAL SHOCK.

**PRODUCT STABILITY AND COMPATIBILITY**

SHELF LIFE LIMITATIONS: 25-30 Years

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: Acids, Class A & B explosives and oxidizers.

### IV. PHYSICAL DATA

APPEARANCE: Cylindrical, brass cartridge

FREEZING POINT: Not Applicable

BOILING POINT: Not Applicable

DECOMPOSITION TEMPERATURE: Not Applicable

SPECIFIC GRAVITY: Not Applicable

BULK DENSITY: Not Applicable

pH @ 25 DEG.C: Not Applicable

VAPOR PRESSURE @ 25 DEG.C: Not Applicable

SOLUBILITY IN WATER: Not Applicable

VOLATILES, PERCENT BY VOLUME: Not Applicable

EVAPORATION RATE: Not Applicable

VAPOR DENSITY: Not Applicable

MOLECULAR WEIGHT: Not Applicable

ODOR: None

COEFFICIENT OF OIL/WATER DISTRIBUTION: Not Applicable

### V. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

**PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:**

RESPIRATORY PROTECTION: None required for normal handling.

VENTILATION: None beyond normal ventilation.

SKIN AND EYE PROTECTIVE EQUIPMENT: Use safety glasses.

**EQUIPMENT SPECIFICATIONS (WHEN APPLICABLE):**

RESPIRATOR TYPE: None normally required

PROTECTIVE CLOTHING TYPE (This includes: gloves, boots, apron, protective suit): None normally required



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**MATERIAL  
SAFETY DATA**

**VI. FIRE AND EXPLOSION HAZARD INFORMATION**

**FLAMMABILITY DATE:**

**EXPLOSIVE:** Yes  
**FLAMMABLE:** Not Applicable  
**COMBUSTIBLE:** Not Applicable  
**PYROPHORIC:** No  
**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:** 0  
**Flammability:** 2  
**Reactivity:** 4

**EXTINGUISHING MEDIA:**

**Water spray NOTE:** DO NOT FIGHT FIRE IF FIRE REACHES CARGO.  
USE WATER FROM UNMANNED STATION.

**FIRE FIGHTING TECHNIQUES AND COMMENTS:**

See Section XI for protective equipment for fire fighting.  
**OTHER:** Evacuate all persons including emergency response personnel from the area for 1500 feet (1/2 mile) in all directions if fire reaches cargo.

**VII. REACTIVITY INFORMATION**

**CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE:**

**TEMPERATURES ABOVE:** No Data  
**MECHANICAL SHOCK OR IMPACT:** Yes - based on primer  
**ELECTRICAL (STATIC) DISCHARGE:** Yes - based on primer  
**OTHER:** CARTRIDGE MAY DETONATE IF CASE IS PUNCTURED OR SEVERELY DAMAGED  
**HAZARDOUS POLYMERIZATION:** Will not occur  
**INCOMPATIBLE MATERIALS:** Acids and caustics  
**HAZARDOUS DECOMPOSITION PRODUCTS:** Nitrogen oxides, carbon monoxide, carbon dioxide, lead oxides, lead dust/fume  
**OTHER CONDITIONS TO AVOID:** CARTRIDGES PLACED IN A HIGH RADIO FREQUENCY ENERGY FIELD (RADAR STATIONS)

**SUMMARY OF REACTIVITY:**

EXPLOSIVE: Yes  
OXIDIZER: No  
PYROPHORIC: No  
ORGANIC PEROXIDE: No  
WATER REACTIVE: No

**VIII. FIRST AID**

**EYES:**

Not a likely route of exposure.

**SKIN:**

Not a likely route of exposure.

**INGESTION:**

Not a likely route of exposure.

**INHALATION:**

Not a likely route of exposure.

**IX. TOXICOLOGY AND HEALTH INFORMATION**

**ROUTES OF ABSORPTION**

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.

**WARNING STATEMENTS AND WARNING PROPERTIES**

PARTICLES FROM FIRING MAY BE HARMFUL IF INHALED.

**HUMAN THRESHOLD RESPONSE DATA**

ODOR THRESHOLD: No available data

IRRITATION THRESHOLD: No available data

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: The IDLH concentration has not been established for this product.

**SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE**

**INHALATION**

**ACUTE:**

Inhalation of the propellant is irritating to the nose, mouth, throat and lungs. Dilation of blood vessels with drop in blood pressure and headache, cyanosis and mental confusion may result from the nitroglycerin. The headache may be severe and can remain for a few hours to several days. It typically starts at the forehead preceded by a sensation of warmth and fullness in the head and may extend to the back of the neck. Nausea, vomiting, and abdominal pain may also occur.



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**MATERIAL  
SAFETY DATA**

**CHRONIC:**

No additional effects are known or have been reported except for those described for acute inhalation exposure.

This product is composed of a finished cartridge, and the propellant is completely sealed. It is judged that the physical nature of the product, the low percentage of propellant in the product and its use would preclude inhalation of a sufficient amount of propellant and the development of these acute and/or chronic symptoms.

**SKIN**

**ACUTE:**

Dermal exposure to the propellant may cause irritation which would subside rapidly upon removal of material without permanent damage. Additional effects would be similar to those described for acute inhalation exposure.

**CHRONIC:**

No additional effects are known or have been reported except for those described for acute inhalation exposure.

This product is composed of a finished cartridge, and the propellant is completely sealed. It is judged that the physical nature of the product, the low percentage of propellant in the product, and its use would preclude skin absorption of a sufficient amount of propellant and the development of these acute and/or chronic symptoms.

**EYE**

Irritation may occur with inflammation of the conjunctiva. Any effect would not result in permanent impairment of vision.

It is judged that this effect would not occur because of the physical nature of the product, and low percentage of propellant in the product and its use.

**INGESTION**

**ACUTE:**

Irritation to the gastrointestinal tract. Additional effects would be similar to those described for acute inhalation exposure.

**CHRONIC:**

No additional effects are known or have been reported except for those described for acute inhalation exposure.

It is judged that the physical nature of the product, the low percentage of propellant in the product, and its use would preclude ingestion and the development of these acute and/or chronic symptoms.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

None known or reported.

**INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY**

None known or reported.

**ANIMAL TOXICOLOGY**

**ACUTE TOXICITY:**

Inhalation LC 50: No available data  
Dermal LD 50: No available data  
Oral LD 50: No available data  
Irritation: Not an irritant to skin or eyes.

**ACUTE TARGET ORGAN TOXICITY:**

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).

Prolonged acute dermal exposure to large amounts of nitrocellulose has been shown to cause headache, dizziness, and cyanosis. Ingestion of an ounce or less of nitrocellulose has been shown to cause confusion, dizziness, vertigo, restlessness, tremors, cyanosis, convulsions, central nervous system depression and possible damage to the liver and kidneys. It is judged that the low concentration of nitrocellulose and nitroglycerine and the physical nature of the product would preclude the occurrence of these symptoms from exposure to this product.

**CHRONIC TARGET ORGAN TOXICITY:**

Chronic ingestion of nitrocellulose has been shown to cause possible damage to the liver and kidneys. It is judged that the low concentration of nitrocellulose and the physical nature of the product would preclude the occurrence of these symptoms from exposure to this product.

**REPRODUCTIVE AND DEVELOPMENTAL TOXICITY:**

There are no known or reported effects on reproductive function or fetal development.

**CARCINOGENICITY:**

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.  
Lead is classified as a carcinogen by IARC. Based on the physical nature of the product and its use, it is judged that the risk of cancer is not significant from exposure to the product.



**MATERIAL SAFETY DATA**

**MUTAGENICITY:**

This product is not known or reported to be mutagenic.

**AQUATIC TOXICITY:**

Fish are unaffected by nitrocellulose at concentrations of 1000 mg/l.

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:  
SMALL ARMS AMMUNITION

REPORTABLE QUANTITY: Not Applicable (Per 49 CFR 172.101, Appendix)

The material described above is subject to the U.S. DOT HAZARDOUS MATERIALS REGULATIONS via the modes and packaging quantities indicated below with the letter "x":

MODE	PACKAGING QUANTITIES	
<input checked="" type="checkbox"/> Rail	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk
<input checked="" type="checkbox"/> Motor	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk
<input checked="" type="checkbox"/> Water	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk
<input checked="" type="checkbox"/> Air	<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Non-Bulk

The applicable packaging sections in 49 CFR are 173.101 and 173.1201.

SPECIAL COMMENTS: Class C Explosive, No label required.

OTHER: May be reclassified as an ORM-D, package may not exceed 65 lbs. gross.

**XI. SPILL AND LEAKAGE PROCEDURES**

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

**REPORTABLE QUANTITY:**

(Per 40 CFR 302.4) - As nitroglycerin 10#, dibutyl phthalate 10#

**SPILL MITIGATION PROCEDURES:**

This product does represent an explosion hazard when involved in a fire or exposed to heat, friction, shock, etc. Remove all sources of ignition.

AIR RELEASE: Not Applicable

WATER RELEASE: Not Applicable

LAND SPILL: Shut off all ignition sources, no flares, smoking, or flames in hazard area. Place in proper DOT container for later disposition.

**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).

Protection concerns must also address the potential of the physical characteristic of this product as explosive.

**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.

OTHER: Deactivation.

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.





## MATERIAL SAFETY DATA

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT TITLE III:  
HAZARD CATEGORIES, PER 40 CFR 370.2:

HEALTH:

None

PHYSICAL:

Sudden release of pressure

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APP.A:  
EXTREMELY HAZARDOUS SUBSTANCE - THRESHOLD PLANNING QUANTITY:

None Established

SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45:  
None Established

#### XIV. ADDITIONAL INFORMATION

MSDS REVISION STATUS: Addition of synonyms to section I

#### XV. MAJOR REFERENCES

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  20. NIOSH Pocket Guide to Chemical Hazards. Washington, DC: U.S. Government Printing Office, 1985.
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  22. Sax, N. Irving, Dangerous Properties of Hazardous Materials 6th Ed., New York: Van Nostrand Reinhold Company, 1984.
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  24. Toxic Substances Control Act Inventory, Washington, DC: U.S. Government Printing Office, 1986.



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**MATERIAL  
SAFETY DATA**

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET 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 UP TO DATE AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MATERIAL SAFETY DATA SHEET IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT OLIN AT THE PHONE NUMBER LISTED BELOW TO MAKE CERTAIN THAT THIS SHEET IS CURRENT.

OLIN MSDS CONTROL GROUP  
Olin Corporation  
120 Long Ridge Road  
Stamford, CT 06904

Phone Number: (203) 356-3449

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