



# MATERIAL SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT

**Product Name:** Nook Industries E-900 Ball Screw Lubricant Spray  
**Product Description:** Synthetic Base Stocks and Additives  
**Product Code:** 202050401020, 494237-00, 971870  
**Intended Use:** Ball screw lubrication

### COMPANY IDENTIFICATION

**Supplier:** **NOOK INDUSTRIES**  
4950 EAST 49th STREET  
CLEVELAND, OH 44125  
**24 Hour Health Emergency** 800-255-3924  
**MSDS Requests** 800-321-7800  
**MSDS Internet Address** <http://www.nookindustries.com/r/msds>

## SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

### REPORTABLE HAZARDOUS SUBSTANCE(S) OR COMPLEX SUBSTANCE(S)

NAME	CAS#	CONCENTRATION*
1-NAPHTHYLAMINE, N-PHENYL	90-30-2	1 %
Propane	74-98-6	5mg/m <sup>3</sup>

\* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

## SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (MSDS Section 15).

### POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. This product is not expected to produce adverse health effects under normal conditions of use and with appropriate personal hygiene practices. Product may decompose at elevated temperatures or under fire conditions and give off irritating and/or harmful (carbon monoxide) gases/vapors/fumes. Symptoms from acute exposure to these decomposition products in confined spaces may include headache, nausea, eye, nose, and throat irritation. High-pressure injection under skin may cause serious damage.

<b>NFPA HAZARD ID:</b>	<b>HEALTH: 1</b>	<b>FLAMMABILITY: 1</b>	<b>REACTIVITY: 0</b>
HMIS Hazard ID:	Health: 1	Flammability: 1	Reactivity: 0

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.



## SECTION 4 FIRST AID MEASURES

### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

### SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

### EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

### INGESTION

Seek immediate medical attention.

## SECTION 5 FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Aldehydes, Smoke, Fume, Oxides of carbon, Sulfur oxides, Incomplete combustion products, Trimethylol propane phosphate

### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** 210C (410F) [ASTM D-92]  
**Flammable Limits (Approx vol % in air):** LEL: N/D UEL: N/D  
**Autoignition Temperature:** N/D



## SECTION 6 ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

### SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

### ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

It has been determined that during fires neurotoxic trimethylol propane phosphate may be formed, which when inhaled may impair central nervous system function. In addition, thermally decomposed (and cooled) residues may be neurotoxic. Prevent small spills and leakage to avoid slip hazard.

**Static Accumulator:** This material is a static accumulator.

### STORAGE

Do not store in open or unlabelled containers.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**NOTE:** Limits/standards shown for guidance only. Follow applicable regulations.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.



**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

### GENERAL INFORMATION

<b>Physical State:</b>	Liquid
<b>Color:</b>	Amber
<b>Odor:</b>	Characteristic
<b>Odor Threshold:</b>	N/D

### IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

<b>Relative Density (at 15 C):</b>	0.96
<b>Flash Point [Method]:</b>	210C (410F) [ASTM D-92]
<b>Flammable Limits (Approx vol % in air):</b>	LEL: N/D UEL: N/D
<b>Autoignition Temperature:</b>	N/D
<b>Boiling Point / Range:</b>	> 316C (600F)
<b>Vapor Density (Air = 1):</b>	N/D
<b>Vapor Pressure:</b>	< 0.013 kPa (0.1 mm Hg) at 20 C
<b>Evaporation Rate (n-butyl acetate = 1):</b>	N/D
<b>pH:</b>	N/A

**Product Name:** Nook Industries E-900 Spray  
**(Part number NLU-1003)**  
**Revision Date:** 23 Sept 2013  
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**Log Pow (n-Octanol/Water  
Partition Coefficient):**

N/A

**Solubility in Water:**

Negligible

**Viscosity:**

13.3 cSt (13.3 mm<sup>2</sup>/sec ) at 40 C | 3 cSt (3 mm<sup>2</sup>/sec) at 100C

**Oxidizing Properties:**

See Sections 3, 15, 16.

## OTHER INFORMATION

**Freezing Point:**

N/D

**Melting Point:**

N/A

**Pour Point:**

-62°C (-80°F)

## SECTION 10

### STABILITY AND REACTIVITY

**Stability:**

material is stable under normal conditions.

**Conditions To Avoid:**

excessive heat. High energy sources of ignition.

**Materials To Avoid:**

Strong oxidizers

**Hazardous Decomposition Products:**

material does not decompose at ambient temperatures.

**Hazardous Polymerization:**

will not occur.

## SECTION 11

### TOXICOLOGICAL INFORMATION

#### ACUTE TOXICITY

ROUTE OF EXPOSURE	CONCLUSION / REMARKS
<b>Inhalation</b>	
Toxicity: No end point data.	Not determined.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
<b>Ingestion</b>	
Toxicity: No end point data.	Minimally Toxic. Based on assessment of the components.
<b>Skin</b>	
Toxicity: No end point data.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
<b>Eye</b>	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

#### CHRONIC/OTHER EFFECTS

**Contains:**

**N-phenyl-1-naphthylamine:** A single oral overexposure may lead to signs of cyanosis, including headache, shallow respiration, dizziness, confusion, fall in blood pressure, convulsions, coma, jaundice.



Anemia may occur later. Repeated exposure in laboratory animals caused liver and kidney damage and depression of bone marrow activity. Hematuria may occur due to bladder and kidney irritation. Genotoxic in vitro.

**Phenyl-alpha-naphthylamine (PAN):** Undiluted PAN is a skin sensitizer. Human testing with lubricants containing 1.0% PAN caused no reactions indicative of sensitization.

Additional information is available by request.

**The following ingredients are cited on the lists below:** None.

--REGULATORY LISTS SEARCHED--		
1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

## SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

### ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

Material -- Not expected to demonstrate chronic toxicity to aquatic organisms.

## SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

### DISPOSAL RECOMMENDATIONS

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning Empty Container Warning (where applicable):** Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.



## SECTION 14 TRANSPORT INFORMATION

<b>LAND (DOT) :</b>	Not Regulated for Land Transport
<b>LAND (TDG) :</b>	Not Regulated for Land Transport
<b>SEA (IMDG) :</b>	Not Regulated for Sea Transport according to IMDG-Code
<b>AIR (IATA) :</b>	Not Regulated for Air Transport

## SECTION 15 REGULATORY INFORMATION

**OSHA HAZARD COMMUNICATION STANDARD:** When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

**NATIONAL CHEMICAL INVENTORY LISTING:** PICCS, AICS, KECI, TSCA, EINECS

**EPCRA:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

**The Following Ingredients are Cited on the Lists Below:**

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
Diphenylamine	122-39-4	5

--REGULATORY LISTS SEARCHED--			
1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

## SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

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The information and recommendations contained herein are, to the best of Nook Industries' knowledge and belief, accurate and reliable as of the date issued. You can contact Nook Industries to insure that this document is the most current available from Nook Industries. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.