

# SAFETY DATA SHEET

This SDS complies with REACH 1907/2006 and 2001/58/EC, GHS, OSHA 29CFR 1910.1200

## Section 1: Product and Company Identification

PRODUCT SUPPLIER COMPANY NAME

Naval Company, Inc.  
Cold Spring Creamery Road  
Doylestown, PA 18902-1208  
USA  
Information: 215-348-8982  
Fax: 215-348-5637  
Safety Data Sheet Competent Person:

CHEMICAL EMERGENCY TELEPHONE

Spill, Leak Exposure or Incident  
INFOTRAC: 352-323-3500  
INFOTRAC: 24-hour USA Number  
800-535-5053  
REF: CCN 106336  
sales@navalcompany.com

DATE PREPARED: October 9, 2008

**REVISION DATE: May 15, 2014**

PRODUCT NAME: **45/70 Blank Cartridges**  
FORMULA: Preparation/Mixture  
PRODUCT USE: Blank Cartridges for Bridger™ Line Throwing Gun made by Naval Co. Inc.

## Section 2: Hazards Identification

Be sure to thoroughly read and understand the *Instructions* and *Safety Precautions for Ultimate Consumer* included with the Bridger Line Throwing Gun kit.

GHS Hazard Class



EXPLOSIVE

Signal word:	Warning
Hazard Statement:	Fire or explosion hazard
Precautionary Statements:	<p>Prevention Response</p> <p>Keep away from heat/sparks/open flames/hot surfaces—No smoking In case of fire: evacuate area Do not fight fire when fire reaches explosives. Fight fire with normal precautions from a reasonable distance.</p> <p>Storage Disposal</p> <p>Store in accordance with local/regional/national/international regulations. Dispose of contents/container in accordance with /regional/national/international regulations.</p>

HAZARD CLASSIFICATION: Classified As Hazardous Based On IMO and DOT.  
FIRE AND EXPLOSION: DO NOT FIGHT FIRES. Black powder may deflagrate or explode in a fire while confined. EVACUATE AREA.

POTENTIAL HEALTH EFFECTS:  
INGESTION: <0 % of mixture consists of ingredients of unknown acute toxicity  
Not a likely route of exposure. If swallowed do not induce vomiting. Get immediate medical attention.  
INHALATION: Not a likely route of exposure.  
A very small amount of inhalable particles may be created when cartridge is fired.  
SKIN CONTACT: Not a likely route of exposure. Wash skin with soap and water.  
EYE CONTACT: Not a likely route of exposure. Flush eyes with water.  
INJURY FROM DETONATION: Seek prompt medical attention!

OTHER: Black Powder Blank Cartridges are explosive, and detonation may cause severe physical injury, including death. All explosives are dangerous and must be handled carefully and used following approved safety procedures under the direction of competent, experienced persons in accordance with all applicable federal, state, and local laws, regulations, and ordinances.

Explosives Temps (5 Sec) – Ignited

Approximately 427°C (801°F)

Velocity in the open: trains of black powder usually burn very slowly, measurable in seconds per foot. Confined, as in steel pipe, speeds of explosions have been times at values from 560 feet per second for very coarse granulations to 2,070 feet per second for finer granulations. Confinement and granulation will affect the values.

CHRONIC EFFECTS OF OVEREXPOSURE:

None

APPEARANCE:

COLOR:

Sealed blank brass cartridge (cylindrical tube) contains black granular powder and primer.

PHYSICAL STATE:

Solid

ODOR:

No detectable odor.

NFPA Rating:

Component	Health (Blue)	Flammability (Red)	Instability Hazards (Yellow)	Special (White)
45/70 Blank Cartridges	1	1	1	--

### Section 3: Composition, Information on Ingredients

These cartridges contain either potassium nitrate *or* sodium nitrate in the percentages indicated. These cartridges **do not contain both**.

PRODUCT COMPOSITION	APPRX %	ACGIH TLV	OSHA PEL	NIOSH REL	CAS NO.	EINECS/ELINCS	DANGER SYMBOL	RISK PHRASE	DSL CANADA
Potassium Nitrate	38 - 42	-----	-----	-----	7757-79-1	231-818-8	-----	-----	Y
Sodium Nitrate	38 - 42	-----	-----	-----	7631-99-4	231-554-3	-----	-----	Y
Charcoal	3 - 10	2 mg/m3	15mg/m3 Total dust. 5 mg/m3 Respirable	-----	7440-44-0	231-153-3	-----	-----	Y
Sulphur	4 - 11	-----	-----	-----	7704-34-9	231-722-6	Xi	38	Y
Graphite	Trace	2 mg/m3	15 mppcf	2 mg/m3	7782-42-5	231-955-3	-----	-----	Y
Empty unprimed brass shell	20 - 40	-----	-----	-----	-----	-----	-----	-----	-----
Wad, vegetable fiber	3 - 6	-----	-----	-----	-----	-----	-----	-----	-----
Primer	1 - 5	-----	-----	-----	-----	-----	-----	-----	-----

Trade Secret (TS) Some items on this MSDS may be designated as trade secrets. Bonafide requests for disclosure of trade secret information to medical personnel must be made in accordance with the provisions contained in 29 CFR 1910.1200 I 1-13. The full text for all R-Phrases is shown in Section 16.

### Section 4: First Aid Measures

INHALATION:

Remove to fresh air. If not breathing, provide CPR (cardio pulmonary resuscitation). Get immediate medical attention.

SKIN CONTACT:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing.

EYE CONTACT:

Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

INGESTION:

If swallowed do not induce vomiting. Get immediate medical attention.

### Section 5: Fire-fighting Measures

FLASH POINT:

Not applicable

FLAMMABLE LIMITS IN AIR (% by vol):

Not applicable

EXTINGUISHING MEDIA:

Water

AUTO IGNITION TEMPERATURE:

Approximately 200°C – 464°C (392°F – 867°F)

SPECIAL FIREFIGHTING PROCEDURES:

DO NOT FIGHT FIRES! Prevent fire from reaching explosives. Guard against intruders.

UNUSUAL FIRE AND EXPLOSION HAZARDS: DO NOT FIGHT FIRES. Black powder may deflagrate or explode in a fire while confined. EVACUATE AREA.

## Section 6: Accidental Release Measures

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Encapsulated in the shell, this is unlikely to be a concern. However, in case ANY powder is exposed or there is a threat of instability in the area, use appropriate personal protective equipment. Isolate areas and remove sources of friction, impact, heat, low-level electric current, electrostatic or RF energy. Only competent, experienced persons should be involved in clean-up procedures.

Wear proper protective equipment as specified in Section 8: Exposure Controls/Personal Protection  
Warn other workers of spill and contain spill.  
Place material into a chemical waste container.  
Eliminate all sources of ignition and ventilate area.  
Prevent spills or contaminated rinse water from entering sewers or watercourses.

DISPOSAL METHOD:

Carefully pick up spills with non-sparking and non-static producing tools. Desensitize exposed powder by diluting in water.

Disposal should be made in accordance with federal, state and local regulations as stated in Section 13.

## Section 7: Handling and Storage

Storage: Store in original containers in cool, dry, well-ventilated areas away from all sources of ignition.  
Do not subject to mechanical shock.  
Keep out of reach of children.  
This product must not be stored with acids, strong oxidizers, or caustics.

Hygienic Practices in Handling and Storage:

Wear only metal free and non-static producing clothes. Impervious rubber gloves are recommended.  
Wash hands and shower after handling.

Precautions for Repair and Maintenance of Contaminated Equipment:

Affected equipment must be thoroughly water cleaned before attempting repairs.  
Use only non-sparking tools.

Other Precautions:

NO SMOKING.  
Store blank cartridges in cool, dry place.  
Keep away from friction, impact, heat, and open flame.

Shelf Life: 25-30 years, indefinite

Incompatible Materials for Storage or Transport: Class A & B explosives, strong oxidizers and/or acids

## Section 8: Exposure Controls/Personal Protection

### EXPOSURE GUIDELINES

EXPOSURE LIMITS

Reference Section 2

VENTILATION:

Use only with adequate ventilation.

SPECIAL VENTILATION CONTROLS:

None required

RESPIRATORY PROTECTION:

None required

PROTECTIVE GLOVES:

Impervious plastic film or rubber gloves

EYE PROTECTION:

Safety Glasses

HEARING PROTECTION:

Hearing protection recommended when firing

SKIN PROTECTION:

Suitable protective clothing to prevent skin contact

OTHER EQUIPMENT:

None

WORK/HYGIENE PRACTICES:

Avoid contact with eyes. Wash hands and face after handling.

## Section 9: Physical and Chemical Properties

APPEARANCE - COLOR: Sealed brass blank cartridge (cylindrical tube) with primer containing black granular powder which is securely enclosed with a natural fiber wad in the open end of the blank cartridge.

PHYSICAL STATE: Solid  
ODOR: No detectable odor

### PRODUCT CRITERIA

PH	6.0 – 8.0
FLASH POINT:	Not applicable
FLAMMABILITY (Solid, gas)	Not applicable
EXPLOSIVE PROPERTIES	Not applicable
OXIDIZING PROPERTIES	Not applicable
SPECIFIC GRAVITY (@25 °C):	1.7 – 1.82 (mercury method) 1.92-2.08 (pycnometer)
EVAPORATION RATE:	Not applicable
% VOLATILE by VOLUME	Not applicable
PARTITION COEFFICIENT n-Octanol/Water	Not applicable
BOILING POINT:	Not applicable
MELTING POINT:	Not applicable
VAPOR PRESSURE	Not applicable
VAPOR DENSITY (AIR = 1)	Not applicable
SOLUBILITY IN WATER:	Good
WATER SOLUBILITY IN THE SOLVENT	Not applicable
FREEZING POINT:	Not applicable
VISCOSITY	Not applicable
AUTO IGNITION TEMPERATURE:	Approximately 200°C – 464°C (392°F – 867°F)

## Section 10: Stability and Reactivity

STABILITY: Stable  
 CONDITIONS TO AVOID: Keep away from heat, sparks, and open flame.  
 Avoid impact, friction, and static electricity.  
 INCOMPATIBILITY (MATERIALS TO AVOID) for STORAGE AND TRASPOT: Class A and B explosives, strong oxidizers, and acids.  
 HAZARDOUS DECOMPOSITION PRODUCTS: None  
 HAZARDOUS POLYMERIZATION: Will not occur

## Section 11: Toxicological Information

GHS Required Criteria	Toxicity Criteria	Toxicity Information	Comments	Chemical Constituent
Acute Toxicity	LD50 (Oral/Rat):	1267 mg/kg		Sodium Nitrate
	LD50 (Oral/Rat):	3750 mg/kg		Potassium Nitrate
Skin Corrosion/Irritation		No information is available.		
Serious Eye Damage / Eye Irritation		8 ppm	Irritant	Sulfur
Respiratory or Skin Sensitization		No information is available.		
Germ Cell Mutagenicity		No information is available.		
Carcinogenicity		Not listed	NTP	
		Not listed	IARC	
		Not listed	OSHA	
Reproductive Toxicity		No information is available.		
STOST -- Single Exposure		No information is available.		
STOST – Repeated Exposure		No information is available.		
Aspiration Hazard		No information is available.		

STOST = Specific Target Organ Systemic Toxicity

OTHER INFORMATION: None  
 Only selected Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

## Section 12: Ecological Information

		Chemical
BIODEGRADATION:	No information is available.	
BIOACCUMULATION:	No information is available.	
ECO TOXICITY:	No information is available.	
MOBILITY:	No information is available.	

## Section 13: Disposal Considerations

### WASTE DISPOSAL:

Carefully pick up spills with non-sparking and non-static producing tools. Desensitize exposed powder by diluting in water. Water will dissolve out the potassium nitrate. By leaching out the potassium nitrate, the residue of sulfur and charcoal is non-explosive, but combustible – dispose separately. Dispose of in compliance with federal regulations under the authority of the Resource Conservation and Recovery Act (40 CFR Parts 260-271)

Follow the waste disposal requirements of your country, state, or local authorities.

RINSATE: Do not dispose of rinse water containing product in a sanitary sewer system, storm water drainage system, or wastewater treatment system.

## Section 14: Transport Information

### ROAD TRANSPORT:

#### ADR = International Carriage of Dangerous Goods by Road

UN NUMBER:	UN 0014
DOT PROPER SHIPPING NAME	Cartridges for weapons, blank <i>or</i> Cartridges, small arms, blank
DOT / ADR HAZARD CLASS:	1.4S Explosives (with no significant blast hazard)
DOT / ADR LABELS:	1.4S (exception: ORM-D ground)
PLACARD:	None
DOT / ADR PACKAGING GROUP:	II
HAZARD NUMBER – ADR:	UN 0014
ADR PROPER SHIPPING NAME:	Cartridges for weapons, blank <i>or</i> Cartridges, small arms, blank
Box	Spec Box

DOT REPORTABLE QUANTITY (49 CFR 172.101, APP.) and CERCLA REPORTABLE QUANTITY (40 CFR PART 302, TABLE 302.4) HAZARDOUS SUBSTANCE(S) NAME / (CAS NO.), CONTENT(S) AND RQ: Not applicable

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
X <u>      </u> Rail	<u>      </u> Bulk            X <u>      </u> Non-Bulk
X <u>      </u> Motor	<u>      </u> Bulk            X <u>      </u> Non-Bulk
X <u>      </u> Water	<u>      </u> Bulk            X <u>      </u> Non-Bulk
X <u>      </u> Air	<u>      </u> Bulk            X <u>      </u> Non-Bulk

DOT (USA) : ERG # 114  
ICAO / IATA ERG CODE: 3L

### SEA TRANSPORT: IMDG

PROPER SHIPPING NAME	Cartridges for weapons, blank <i>or</i> Cartridges, small arms, blank
UN NUMBER SEA	UN 0014
CLASS:	1.4S Explosives (with no significant blast hazard)
PACKING GROUP:	II
EmS No.:	F-B, S-X
MARINE POLLUTANT:	No
SEA TRANSPORT NOTES:	Category 05 Stowage and segregation

### AIR TRANSPORT: IATA/ICAO

UN NUMBER:	UN 0014
PROPER SHIPPING NAME	Cartridges, small arms, blank
HAZARD CLASS:	1.4S
LABELS:	Explosive 1.4S

PACKAGING GROUP: None

The applicable packaging sections in 49 CFR are 173.63 and 173.62 or in IATA Packing Instructions 130. Truck driver must have a current ERG in their truck when transporting any dangerous goods / hazardous materials. DO NOT COVER marking and labeling on boxes when transporting!

1.4S label required for all AIR or ground “Hazmat” shipments of this item. The applicable packaging sections in 49 CFR are 173.63 and 173.62 or in IATA Packing Instructions 130. Notice state and carrier variations. May be reclassified as an **ORM-D** for ground shipments in the USA only – no label required for ORM-D shipments of this item. Packages going by passenger aircraft may not exceed 25 Kg net or 100 Kg for cargo aircraft only. **NO ORM-D AIR!** See both CFR-49 and IATA regulations for all air shipments.

## Section 15: Regulatory Information

LABEL FOR SUPPLY:



EXPLOSIVE

RISK/SAFETY PHRASES:	R-Phrase:	R3	Risk of explosion by shock, friction, fire or other sources of ignition.
	S-Phrase:	S15	Keep away from heat.
		S16	Keep away from sources of ignition – No smoking.

### TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:

**This product is in compliance with rules, regulations, and orders of TSCA. All components are listed on the TSCA Inventory.**

### SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313 SUPPLIER NOTIFICATION:

This regulation requires submission of annual reports of toxic chemical(s) that appear in section 313 of the Emergency Planning and Community Right To Know Act of 1986 and 40 CFR 372. This information must be included in all MSDS’s that are copied and distributed for the material.

The Section 313 toxic chemicals contained in this product are: None

### CALIFORNIA PROPOSITION 65:

This regulation requires a warning for California Proposition 65 chemical(s) under the statute.

The California proposition 65 chemical(s) contained in this product are: None

### STATE RIGHT-TO-KNOW TOXIC SUBSTANCE OR HAZARDOUS SUBSTANCE LIST:

Florida Toxic Substance(s):	Not listed
Massachusetts’s hazardous substance(s):	Not listed
Pennsylvania hazardous substance code(s):	Not listed
New Jersey	Not listed
Illinois	Not listed
Michigan	Not listed

### CANADA:

This MSDS/SDS will be non-compliant 3 years after the issue date. This MSDS contains all of the information required by the Controlled Products Regulations (CPR).

### WHMIS-INFORMATION:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR), SOR/88-66, Current to February 20, 2012. The classes of controlled products listed in the CPR, Section 32, Part IV, have been reviewed and based on Professional Judgment this product has been determined to not be WHMIS controlled.

### EUROPEAN UNION:

This product has been reviewed for compliance with the following European Community Directives: REACH 1907/2006; Directive 1999/45/EC, Regulation (EC) No 1272/2008 on classification, labeling, and packaging (CLP) of substances and mixtures.

## Section 16: Other Information

European Community Hazards Identification:

R: 38 Irritating to skin  
S: (2-) Keep out of the reach of children.  
S: 46 If swallowed, seek medical advice immediately and show this container or label.  
Danger Symbol(s): Xi Irritant

Revision Comments: Updated from January 27, 2011  
Revision Number: 0  
Information Sources: RTECS, REACH, OSHA 29CFR 1910.1200

A copy of this MSDS is available at <http://www.navalcompany.com/msds.pdf>

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 USERS OR PERSONS HANDLING THIS PRODUCT. NAVAL COMPANY INC. 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 NAVAL COMPANY INC. AT THE PHONE NUMBER LISTED BELOW TO MAKE CERTAIN THAT THIS MSDS IS CURRENT.

MSDS AUTHORED BY:

**aēgis**

ENVIRONMENTAL STRATEGIES

[WWW.AEGIS-EHS.COM](http://WWW.AEGIS-EHS.COM)