



## LINE-THROWING ROCKET

### Drew Marine Signal and Safety Germany GmbH

Chemwatch: 65-6254

Version No: 3.1.1.1

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 05/09/2016

Print Date: 07/09/2016

S.GHS.U.S.A.EN

## SECTION 1 IDENTIFICATION

### Product Identifier

Product name	LINE-THROWING ROCKET
Synonyms	Comet/Pains Wessex rocket for linethrower 250: 9162700, 9500800
Proper shipping name	Articles, pyrotechnic for technical purposes
Other means of identification	Not Available

### Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions. Sea distress signal. The Line-Throwing Rocket 250 is used in Comet and Pains Wessex Line-Thrower, Art. 9160400 / 9160500 and Art. 9502000 / 9500700 being used for establishing a line connection between vessels, ship-to-shore, shore-to-ship and shore based rescue services.
--------------------------	---

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Drew Marine Signal and Safety Germany GmbH
Address	Vieländer Weg 147 Bremerhaven 27574 Germany
Telephone	+49 471 3930
Fax	+49 471 3932 10
Website	www.signalandsafety.com
Email	info@signalandsafety.com

### Emergency phone number


Association / Organisation	Consultant Lutz Harder GmbH
Emergency telephone numbers	+49 178 433 7434
Other emergency telephone numbers	CHEMWATCH: From within the US and CANADA: 1 877 715 9305 OR call +613 9573 3112. From outside the US and Canada: +800 2436 2255 (+800 CHEMCALL) or +61 3 9573 3112

## SECTION 2 HAZARD(S) IDENTIFICATION

### Classification of the substance or mixture

Classification	Explosive Division 1.4
----------------	------------------------

### Label elements

GHS label elements	
--------------------	---

SIGNAL WORD	<b>WARNING</b>
-------------	----------------

### Hazard statement(s)

H204	Fire or projection hazard.
------	----------------------------

### Hazard(s) not otherwise specified

Not Applicable

### Precautionary statement(s) Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P250	Do not subject to grinding/shock/sources of friction.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P240	Ground/bond container and receiving equipment.

Continued...

## LINE-THROWING ROCKET

### Precautionary statement(s) Response

P370+P380	In case of fire: Evacuate area.
P372	Explosion risk in case of fire.
P374	Fight fire with normal precautions from a reasonable distance.
P373	DO NOT fight fire when fire reaches explosives.

### Precautionary statement(s) Storage

P401	Store according to local regulations for explosives.
------	--

### Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
------	---

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
		device contains
		polytechnic materials of;
7757-79-1	>60	<u>potassium nitrate</u>
		rocket propellant;
9004-70-0	30-60	<u>nitrocellulose</u>
55-63-0	30-60	<u>nitroglycerin</u>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

## SECTION 4 FIRST-AID MEASURES

### Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with water.</li> <li>▶ If irritation continues, seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>
<b>Ingestion</b>	<p>Not considered a normal route of entry.</p> <ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>

### Most important symptoms and effects, both acute and delayed

See Section 11

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5 FIRE-FIGHTING MEASURES

### Extinguishing media

**DANGER:** Deliver media remotely.

- ▶ For minor fires: Flooding quantities only.
  - ▶ For large fires: **Do not attempt to extinguish.**
- Apply by mechanical means only.

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	Avoid contact with other chemicals.
-----------------------------	-------------------------------------

**Special protective equipment and precautions for fire-fighters**

<b>Fire Fighting</b>	<p><b>WARNING: EXPLOSIVE MATERIALS / ARTICLES PRESENT!</b></p> <ul style="list-style-type: none"> <li>▶ Evacuate all personnel and move upwind.</li> <li>▶ Prevent re-entry.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May detonate and burning material may be propelled from fire.</li> <li>▶ Wear full-body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage and fire effluent from entering drains and water courses.</li> <li>▶ Fight fire from safe distances and from protected locations.</li> <li>▶ Use flooding quantities of water.</li> <li>▶ <b>DO NOT</b> approach containers or packages suspected to be hot.</li> <li>▶ Cool any exposed containers not involved in fire from a protected location.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul> <p>Slight hazard when exposed to heat, flame and oxidisers.</p>
<b>Fire/Explosion Hazard</b>	<p>Division 1.4 Substances, mixtures and articles which present no significant hazard: substances, mixtures and articles which present only a small hazard in the event of ignition or initiation. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package.</p> <p>Compatibility Group G explosives are pyrotechnic substances, or article containing a pyrotechnic substances, or article containing both an explosive substance and an illuminating, incendiary, tear- or smoke-producing substance (other than a water-activated article or one containing white phosphorus, phosphides, a pyrophoric substance, a flammable liquid or gel, or hypergolic liquids).</p> <p>Combustible. Will burn if ignited. Combustion products include; carbon monoxide (CO) carbon dioxide (CO<sub>2</sub>) other pyrolysis products typical of burning organic material</p>

**SECTION 6 ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

See section 8

**Environmental precautions**

See section 12

**Methods and material for containment and cleaning up**

<b>Minor Spills</b>	<p><b>WARNING: EXPLOSIVE.</b></p> <p>BLAST and/or PROJECTION and/or FIRE HAZARD</p> <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid inhalation of the material and avoid contact with eyes and skin.</li> <li>▶ Wear impervious gloves and safety glasses.</li> <li>▶ Remove all ignition sources.</li> <li>▶ Use spark-free tools when handling.</li> <li>▶ Sweep into non-sparking containers or barrels and moisten with water.</li> <li>▶ Place spilled material in clean, sealable, labelled container for disposal.</li> <li>▶ Flush area with large amounts of water.</li> </ul>
<b>Major Spills</b>	<p><b>WARNING: EXPLOSIVE.</b></p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ In case of transport accident notify Police, Emergency Authority, Competent Explosives Authority or Manufacturer.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ Increase ventilation.</li> <li>▶ Use extreme caution to prevent physical shock.</li> <li>▶ Use only spark-free shovels and explosion-proof equipment.</li> <li>▶ Collect recoverable material and segregate from spilled material.</li> <li>▶ Wash spill area with large quantities of water.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

**SECTION 7 HANDLING AND STORAGE****Precautions for safe handling**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Handle gently. Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Avoid smoking, naked lights, heat or ignition sources.</li> <li>▶ Explosives must not be struck with metal implements.</li> <li>▶ Avoid mechanical and thermal shock and friction.</li> <li>▶ Use in a well ventilated area.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling DO NOT eat, drink or smoke.</b></li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store cases in a well ventilated magazine licenced for the appropriate Class, Division and Compatibility Group.</li> <li>▶ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Store in a cool place in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ Store in an isolated area away from other materials.</li> </ul>

## LINE-THROWING ROCKET

- ▶ Keep storage area free of debris, waste and combustibles.
  - ▶ Protect containers against physical damage.
  - ▶ Check regularly for spills and leaks
- NOTE:** If explosives need to be destroyed contact the Competent Authority.
- ▶ Store away from incompatible materials.

Keep out of reach of children.

### Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ All packaging for Class 1 Goods shall be in accordance with the requirements of the relevant Code for the transport of Dangerous Goods.</li> <li>▶ Class 1 is unique in that the type of packaging used frequently has a very decisive effect on the hazard and therefore on the assignment to a particular division</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.</li> <li>▶ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.</li> <li>▶ Explosion hazard may follow contact with incompatible materials</li> </ul>

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z3	nitrocellulose	Inert or Nuisance Dust	5 mg/m <sup>3</sup> / 15 mg/m <sup>3</sup> / 15 mppcf / 50 mppcf	Not Available	Not Available	Respirable fraction; All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1. / Total dust; All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.
US OSHA Permissible Exposure Levels (PELs) - Table Z1	nitroglycerin	Nitroglycerin	Not Available	Not Available	2 mg/m <sup>3</sup> / 0.2 ppm	Not Available
US ACGIH Threshold Limit Values (TLV)	nitroglycerin	Nitroglycerin	0.05 ppm	Not Available	Not Available	TLV® Basis: Vasodilation
US NIOSH Recommended Exposure Limits (RELs)	nitroglycerin	Glyceryl trinitrate; NG; 1,2,3-Propanetriol trinitrate; Trinitroglycerine	Not Available	0.1 mg/m <sup>3</sup>	Not Available	[skin]

#### EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
potassium nitrate	Potassium nitrate	0.074 mg/m <sup>3</sup>	0.82 mg/m <sup>3</sup>	600 mg/m <sup>3</sup>
nitrocellulose	Pyroxylin; (Cellulose tetranitrate)	15 mg/m <sup>3</sup>	170 mg/m <sup>3</sup>	990 mg/m <sup>3</sup>
nitroglycerin	Nitroglycerin	0.1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	500 mg/m <sup>3</sup>

Ingredient	Original IDLH	Revised IDLH
potassium nitrate	Not Available	Not Available
nitrocellulose	Not Available	Not Available
nitroglycerin	500 mg/m <sup>3</sup>	75 mg/m <sup>3</sup>

### Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls for explosive articles are designed to reduce or eliminate fragmentation and/or blast effects either by suppression of the source of detonation or by protection at the exposed location, or both. Barricades, shields, contained detonation chambers, and "zero quantity-distance (Q-D)" magazines are examples of engineering controls.</p> <p>Engineering controls are designed and tested in a rigorous fashion. The construction of the engineering control must be carefully duplicated in field applications to assure it will function properly.</p> <p>It is thus imperative that engineering controls be built exactly in accordance with the design package, and that they be used only for the articles (e.g. munitions) for which they are authorised.</p>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields</li> <li>▶ Chemical goggles</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul>
<b>Body protection</b>	See Other protection below

## LINE-THROWING ROCKET

<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Fire resistant/ heat resistant gloves where practical, otherwise</li> <li>▶ Heavy-duty chemically resistant gloves capable of providing short-term protection against spontaneous ignition.</li> <li>▶ Safety footwear</li> </ul> Hard hat Ear Protection.
<b>Thermal hazards</b>	Not Available

### Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Respiratory protection not normally required due to the physical form of the product.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Steel tube with grey outer casing pressed with black/grey polytechnical ingredients.		
<b>Physical state</b>	Manufactured	<b>Relative density (Water = 1)</b>	Not Applicable
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	>71
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Not Applicable
<b>Melting point / freezing point (°C)</b>	Not Applicable	<b>Viscosity (cSt)</b>	Not Applicable
<b>Initial boiling point and boiling range (°C)</b>	Not Applicable	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	160	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Applicable	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Applicable	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Applicable	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Applicable
<b>Lower Explosive Limit (%)</b>	Not Applicable	<b>Volatile Component (%vol)</b>	Not Applicable
<b>Vapour pressure (kPa)</b>	Not Applicable	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution (1%)</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	Not Applicable	<b>VOC g/L</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Presence of shock and friction</li> <li>▶ Presence of heat source and ignition source</li> <li>▶ Product is considered stable under normal handling conditions.</li> <li>▶ Stable under normal storage conditions.</li> <li>▶ Hazardous polymerization will not occur.</li> </ul> Avoid contact with other chemicals.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

<b>Inhaled</b>	Not normally a hazard due to physical form of product. Inhalation of vapour is more likely at higher than normal temperatures. The vapour is discomforting
<b>Ingestion</b>	Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments
<b>Skin Contact</b>	Not normally a hazard due to physical form of product. The vapour is discomforting
<b>Eye</b>	Not normally a hazard due to physical form of product. The vapour is discomforting
<b>Chronic</b>	▶ Generally not applicable.

<b>LINE-THROWING ROCKET</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
-----------------------------	-----------------	-------------------

## LINE-THROWING ROCKET

	Not Available	Not Available
potassium nitrate	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >5000 mg/kg <sup>[1]</sup>	Nil reported
	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	
nitrocellulose	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >5000 mg/kg <sup>[2]</sup>	Not Available
nitroglycerin	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >9 mg/kg <sup>[1]</sup>	Not Available
	Oral (rat) LD50: 105 mg/kg <sup>[2]</sup>	

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.\* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

<b>NITROCELLULOSE</b>	No significant acute toxicological data identified in literature search.
<b>NITROGLYCERIN</b>	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Substance has been investigated as a tumorigen, mutagen and reproductive effector. Equivocal tumorigen by RTECS criteria. Reproductive effector in rats.

<b>Acute Toxicity</b>	☒	<b>Carcinogenicity</b>	☒
<b>Skin Irritation/Corrosion</b>	☒	<b>Reproductivity</b>	☒
<b>Serious Eye Damage/Irritation</b>	☒	<b>STOT - Single Exposure</b>	☒
<b>Respiratory or Skin sensitisation</b>	☒	<b>STOT - Repeated Exposure</b>	☒
<b>Mutagenicity</b>	☒	<b>Aspiration Hazard</b>	☒

**Legend:** ✘ – Data available but does not fill the criteria for classification  
✔ – Data required to make classification available  
☒ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
potassium nitrate	LC50	96	Fish	22.5mg/L	4
potassium nitrate	EC50	48	Crustacea	490mg/L	2
potassium nitrate	EC50	96	Algae or other aquatic plants	1181.887mg/L	3
potassium nitrate	EC50	96	Crustacea	39mg/L	2
potassium nitrate	NOEC	96	Fish	98.9mg/L	2
nitrocellulose	EC50	96	Algae or other aquatic plants	579mg/L	4
nitroglycerin	LC50	96	Fish	1.38mg/L	4
nitroglycerin	EC50	48	Crustacea	46mg/L	4
nitroglycerin	EC50	96	Algae or other aquatic plants	0.4mg/L	4
nitroglycerin	BCF	192	Fish	0.42mg/L	4
nitroglycerin	EC50	96	Algae or other aquatic plants	1.0mg/L	4
nitroglycerin	NOEC	1440	Fish	0.03mg/L	2

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
potassium nitrate	LOW	LOW
nitroglycerin	LOW (Half-life = 14 days)	LOW (Half-life = 0.73 days)

## Bioaccumulative potential

Ingredient	Bioaccumulation
potassium nitrate	LOW (LogKOW = 0.209)

## Mobility in soil

Continued...

## LINE-THROWING ROCKET

Ingredient	Mobility
potassium nitrate	LOW (KOC = 14.3)


### SECTION 13 DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Explosives must not be thrown away, buried, discarded or placed with garbage.</li> <li>▶ Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified.</li> <li>▶ This material may be disposed of by burning or detonation but the operation may only be performed under the control of a person trained in the safe destruction of explosives.</li> </ul> <p>Refer to local Waste Disposal Authority and supplier for suitable disposal procedure.</p>
-------------------------------------	---

### SECTION 14 TRANSPORT INFORMATION

#### Labels Required

	
<b>Marine Pollutant</b>	NO

#### Land transport (DOT)

<b>UN number</b>	0431				
<b>UN proper shipping name</b>	Articles, pyrotechnic for technical purposes				
<b>Transport hazard class(es)</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Class</td> <td>1.4G</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Subrisk</td> <td>Not Applicable</td> </tr> </table>	Class	1.4G	Subrisk	Not Applicable
Class	1.4G				
Subrisk	Not Applicable				
<b>Packing group</b>	Not Applicable				
<b>Environmental hazard</b>	Not Applicable				
<b>Special precautions for user</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Hazard Label</td> <td>1.4G</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Special provisions</td> <td>Not Applicable</td> </tr> </table>	Hazard Label	1.4G	Special provisions	Not Applicable
Hazard Label	1.4G				
Special provisions	Not Applicable				

#### Air transport (ICAO-IATA / DGR)

<b>UN number</b>	0431														
<b>UN proper shipping name</b>	Articles, pyrotechnic for technical purposes														
<b>Transport hazard class(es)</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO/IATA Class</td> <td>1.4G</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ERG Code</td> <td>1L</td> </tr> </table>	ICAO/IATA Class	1.4G	ICAO / IATA Subrisk	Not Applicable	ERG Code	1L								
ICAO/IATA Class	1.4G														
ICAO / IATA Subrisk	Not Applicable														
ERG Code	1L														
<b>Packing group</b>	Not Applicable														
<b>Environmental hazard</b>	Not Applicable														
<b>Special precautions for user</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Special provisions</td> <td>Not Applicable</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Cargo Only Packing Instructions</td> <td>135</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Cargo Only Maximum Qty / Pack</td> <td>75 kg</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Packing Instructions</td> <td>Forbidden</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Maximum Qty / Pack</td> <td>Forbidden</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Forbidden</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Passenger and Cargo Limited Maximum Qty / Pack</td> <td>Forbidden</td> </tr> </table>	Special provisions	Not Applicable	Cargo Only Packing Instructions	135	Cargo Only Maximum Qty / Pack	75 kg	Passenger and Cargo Packing Instructions	Forbidden	Passenger and Cargo Maximum Qty / Pack	Forbidden	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden
Special provisions	Not Applicable														
Cargo Only Packing Instructions	135														
Cargo Only Maximum Qty / Pack	75 kg														
Passenger and Cargo Packing Instructions	Forbidden														
Passenger and Cargo Maximum Qty / Pack	Forbidden														
Passenger and Cargo Limited Quantity Packing Instructions	Forbidden														
Passenger and Cargo Limited Maximum Qty / Pack	Forbidden														

#### Sea transport (IMDG-Code / GGVSee)

<b>UN number</b>	0431				
<b>UN proper shipping name</b>	ARTICLES, PYROTECHNIC for technical purposes				
<b>Transport hazard class(es)</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">IMDG Class</td> <td>1.4G</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">IMDG Subrisk</td> <td>Not Applicable</td> </tr> </table>	IMDG Class	1.4G	IMDG Subrisk	Not Applicable
IMDG Class	1.4G				
IMDG Subrisk	Not Applicable				
<b>Packing group</b>	Not Applicable				
<b>Environmental hazard</b>	Not Applicable				
<b>Special precautions for user</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">EMS Number</td> <td>F-B, S-X</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Special provisions</td> <td>Not Applicable</td> </tr> </table>	EMS Number	F-B, S-X	Special provisions	Not Applicable
EMS Number	F-B, S-X				
Special provisions	Not Applicable				

## LINE-THROWING ROCKET

Limited Quantities | 0

## Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

## SECTION 15 REGULATORY INFORMATION

## Safety, health and environmental regulations / legislation specific for the substance or mixture

## POTASSIUM NITRATE(7757-79-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US EPCRA Section 313 Chemical List

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

## NITROCELLULOSE(9004-70-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US - Oregon Permissible Exposure Limits (Z-1)

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)

US - Washington Permissible exposure limits of air contaminants

US - California Permissible Exposure Limits for Chemical Contaminants

US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants

US - Hawaii Air Contaminant Limits

US OSHA Permissible Exposure Levels (PELs) - Table Z3

US - Michigan Exposure Limits for Air Contaminants

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

## NITROGLYCERIN(55-63-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants

US - Alaska Limits for Air Contaminants

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants

US - California Permissible Exposure Limits for Chemical Contaminants

US - Washington Permissible exposure limits of air contaminants

US - Hawaii Air Contaminant Limits

US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants

US - Idaho - Limits for Air Contaminants

US ACGIH Threshold Limit Values (TLV)

US - Michigan Exposure Limits for Air Contaminants

US EPCRA Section 313 Chemical List

US - Minnesota Permissible Exposure Limits (PELs)

US NIOSH Recommended Exposure Limits (RELs)

US - Oregon Permissible Exposure Limits (Z-1)

US OSHA Permissible Exposure Levels (PELs) - Table Z1

US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

## Federal Regulations

## Superfund Amendments and Reauthorization Act of 1986 (SARA)

## SECTION 311/312 HAZARD CATEGORIES

Immediate (acute) health hazard	No
Delayed (chronic) health hazard	No
Fire hazard	No
Pressure hazard	Yes
Reactivity hazard	No

## US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
Nitroglycerine	10	4.54

## State Regulations

## US. CALIFORNIA PROPOSITION 65

None Reported

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (nitrocellulose; nitroglycerin; potassium nitrate)
China - IECSC	N (nitroglycerin)
Europe - EINEC / ELINCS / NLP	N (nitrocellulose)
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

## SECTION 16 OTHER INFORMATION

Continued...



**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.