

**SECTION I - IDENTIFICATION**

<b>PRODUCT NAME &amp; SYNONYMS:</b> 25mm Marine Aerial Signal Cartridge (Red or White)	
<b>CHEMICAL FAMILY:</b> Not Applicable	<b>FORMULA:</b> Mixture
<b>TRADE NAME:</b> 25mm, Red or White star.	
<b>DESCRIPTION:</b> A dark gray powder consolidated into an aluminum cup	<b>CAS NO.:</b> Not Applicable

**SECTION II - NORMAL HANDLING PROCEDURES**

<b>PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: (KEEP OUT OF REACH OF CHILDREN)</b> Store in a cool area out of direct sunlight. Do not allow long-term exposure to temperatures in excess of 180°F. Avoid long-term immersion in water. Do not disassemble signal. Do not ingest contents. Washed contaminated skin or eyes with water. Do not attempt to ignite or burn this product inside a building or vehicle.	
<b>PROTECTIVE EQUIPMENT</b>	<b>VENTILATION REQUIREMENTS</b>
<b>EYES:</b> Goggles when handling broken containers. <b>GLOVES:</b> Rubber if star contents are broken up into dust. <b>OTHER:</b> None required.	Outdoor use only.

**SECTION III - HAZARDOUS INGREDIENTS**

BASIC MATERIALS	OSHA PEL	LD 50	LC 50	SIGNIFICANT EFFECTS
Magnesium CAS# 7439-95-4	15 mg/m <sup>3</sup>	230 mg/Kg (rat)	No Data	Heart beat alteration. Inflammation and local lesions on skin.
Strontium Nitrate CAS# 10042-76-9	None Est.	2750 mg/Kg (rat)	No Data	Irritant to skin, eyes & mucous membranes
Potassium Nitrate CAS# 7757-79-1	None Est.	Not Known	No Data	May be irritating to eyes, mucous membranes & respiratory system.
Barium Nitrate CAS# 1002-31-8	0.5 mg/m <sup>3</sup>	355 mg/kg (rat)	No Data	Eye & skin irritant. Respiratory irritant
Black Powder	None Est.	None Est.	None Est.	Poisonous in more than trace quantities. Explosive if loose. Dust may be irritant.

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

<b>Auto Ignition of Contents:</b> >180°F	<b>OSHA CLASSIFICATION:</b> Red - 1.4S, White - 1.4G, Explosive	<b>FLAMMABLE EXPLOSIVE LIMITS</b>	<b>LOWER:</b> Not Known	<b>UPPER:</b> Not Known
<b>EXTINGUISHING MEDIA:</b> Water deluge. Suffocation techniques may be ineffective.				
<b>SPECIAL FIRE HAZARD &amp; FIRE FIGHTING PROCEDURES:</b> Use NIOSH/MSHA approved self-contained breathing apparatus when signals are involved in a fire.				

**SECTION V - HEALTH HAZARD DATA**

<b>THRESHOLD LIMIT VALUE:</b>	None established.
<b>SYMPTOMS OF OVER EXPOSURE:</b>	Contents of star can cause skin, eye and mucous membrane irritation; dermatitis.
<b>SKIN:</b>	If exposed to contents, flush thoroughly with water.
<b>EYES:</b>	If exposed to contents, flush with water for 15 minutes, call a physician.
<b>INGESTION:</b>	Call a physician immediately
<b>INHALATION:</b>	If star contents are inhaled, move victim to fresh air. Call a physician.

## SECTION VI - TOXICOLOGY (Contents of Signal)

25mm Marine Aerial  
Signal Cartridge (Red or White)

ACUTE ORAL LD 50:	No available data.	CARCINOGENICITY:	Not known to be carcinogenic.
ACUTE DERMAL LD 50:	No available data.	MUTAGENICITY:	Not known to be mutagenic.
ACUTE INHALATION LC 50:	No available data.	IRRITANT:	Eye and skin
PRINCIPAL ROUTES OF ABSORPTION:		Inhalation or ingestion of contents.	
EFFECTS OF ACUTE EXPOSURE:		Contents can cause skin, eye and mucous membrane irritation; dermatitis.	
EFFECTS OF CHRONIC EXPOSURE:		Contents as a dust may cause dermatitis. In extreme cases, symptoms of poisoning.	

## SECTION VII - SPILL AND LEAKAGE PROCEDURES (Control Procedures)

<b>ACTION FOR MATERIAL RELEASE OR SPILL:</b> Remove all sources of ignition. Wear NIOSH/MSHA approved dust respirator if there are dusty conditions. (Follow OSHA regulations for respirator use. See 29 CFR 1910.134.) Use non-sparking utensils to sweep or shovel up and place in an approved DOT container. Do not return material to original container. Isolate and <b>DO NOT SEAL</b> . Wash all contaminated clothing before re-use. In the event of a large spill, call the emergency telephone number listed below.  <p style="text-align: center;"><b>TRANSPORTATION EMERGENCY, CONTACT CHEMTREC 1-800-424-9300</b></p>
<b>WASTE DISPOSAL METHOD:</b> Dispose of contaminated product and materials used in cleaning up spills or leaks in the manner approved for pyrotechnic material. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. Open burning is preferred method of disposal for pyrotechnic materials.

## SECTION VIII - SHIPPING DATA

DOT CLASS:	Cartridges, Signal, 1.4S, UN0405, Packing Group II, EX-8604107 (red) Cartridges, Signal, 1.4G, UN0312, Packing Group II, EX-9602080 (white)
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## SECTION IX - REACTIVITY DATA

STABLE:            UNSTABLE: X    AT _____ °C Above 200 °F	HAZARDOUS	MAY OCCUR:
CONDITIONS TO AVOID: Continued exposure to moisture and temperatures above 200°F INCOMPATIBILITY (Material to avoid): None known. HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, Nitrous oxides, Sulfur oxides, Carbon dioxide and various Barium compounds.	POLYMERIZATION	WILL NOT OCCUR: X

## SECTION X - PHYSICAL DATA

MELTING POINT:	Not Applicable	VAPOR PRESSURE:	No Data	VOLATILES	No Data
BOILING POINT:	Not Applicable	SOLUBILITY IN WATER:	No Data	EVAPORATION RATE	No Data
SPECIFIC GRAVITY (H <sub>2</sub> O=1):	No Data	pH:	Not Applicable	VAPOR DENSITY (Air=1)	Not Applicable

**INFORMATION FURNISHED BY:**

**ORION SAFETY PRODUCTS**

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