

MATERIAL SAFETY DATA SHEET

Refer to Section 16 for List of Acronyms and Abbreviations

SECTION 1: IDENTIFICATION		
1.1 Product Name:	LIFESMOKE KEL	
1.2 Product Code:	KEL	
1.3 Description:	<p>The Chemring Defence Spain Lifesmoke Kel is buoyant orange smoke signal consists of a metal case containing smoke composition which produces orange smoke for outdoor signalling in emergency or distress situations.</p> <p>El bote de humo Kel es la señal de humo flotante de color naranja que consiste en un envase metálico que contiene la composición de humo para la señalización exterior en situaciones de emergencia.</p>	
1.4 Manufacturers Name:	Manufacturer: CHEMRING DEFENCE SPAIN, S.L.	Sales: CHEMRING DEFENCE SPAIN, S.L.
1.5 Address:	Camino Mendi S/N 31191 Esquíroz de Galar Navarra SPAIN	Camino Mendi S/N 31191 Esquíroz de Galar Navarra SPAIN
1.6 Telephone No:	0034948317862	0034948317862
1.7 EMERGENCY 24 HR SERVICE NO:		
SECTION 2: INFORMATION ON HAZARDOUS INGREDIENTS		
<p>This device contains intimate mixtures of the ingredients listed below. These mixtures cannot be converted back to individual ingredients and are sealed inside the product.</p>		
INGREDIENT	CAS NO.	MASS PER PRODUCT
Potassium chlorate	3811-01-9	<40grams
Potassium Nitrate	7757-79-1	<20 grams
Antimonium Sulphure	1345-04-6	<1 grams
SECTION 3: HAZARD IDENTIFICATION		
3.1 General Hazards: <ul style="list-style-type: none"> When fired, a orange smoke is emitted from this product. Steel tube will become excessively hot. Do not point (and fire) product at people or property. Keep out of reach of children. Do not fire in confined spaces. Product is designed for outdoor use only. In its unfired form, the product presents no hazard. Keep product away from extreme heat and sources of ignition. During function, avoid looking directly at burning flare. 		
3.2 Health Hazards: <ul style="list-style-type: none"> If product is damaged, the contents may be harmful to skin, eyes and respiratory tract. 		

- Smoke produced on ignition may cause irritation to eyes and throat.
- Where this product is used for training purposes and therefore potential exposure increased, every effort must be made to ensure that personnel are upwind of the smoke.
- Medical conditions that may be aggravated by exposure to smoke are respiratory diseases that include Asthma and Emphysema.
- Risk of receiving burns during normal usage is highly unlikely.

3.3 Environmental Hazards:

- Smoke is produced on ignition of this product.

SECTION 4: FIRST AID MEASURES

In the unlikely event of receiving burns from this product, seek medical attention at once. Exposure to smoke may cause irritation to eyes and throat. Move patient to fresh air. Other measures to be taken as follows:

4.1 Eye Contact:	Flush with water for at least 10 minutes. If symptoms persist seek medical advice.
4.2 Skin Contact:	Remove contaminated clothing. Wash exposed areas with soap and water. Do not use solvents or thinners of any kind.
4.3 Inhalation:	Remove from further exposure. If symptoms develop such as coughing, wheezing or shortness of breath seek medical attention.
4.4 Ingestion:	Make patient drink water. Do not induce vomiting. Seek medical attention at once.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Flammable Properties:	N/A
5.2 Flash Point LTL (°C):	N/A
5.3 Auto Ignition Temperature:	N/A
5.4 Flammability Limits:	N/A
5.5 Extinguishing Agent:	Use copious amounts of water to control the burn.
5.6 Special Fire Fighting Procedures:	Once product has ignited the store will burn until all composition has been exhausted.
5.7 Fire Fighting Equipment:	For fires in enclosed areas fire fighters must use self-contained breathing apparatus (SCBA).

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Safeguards:	Keep product away from all sources of ignition.
6.2 Spillage:	Collect all damaged and undamaged products and replace in original packaging for disposal. Loose composition should be treated with dry sand, carefully swept up and disposed of according to local authority regulations. The area should then be washed down with copious quantities of water.
6.3 Other Precautions:	Contact appropriate emergency services.

SECTION 7: HANDLING AND STORAGE

7.1 Handling:

- Ensure that handle is retained in safe position at all times until such time as product is required for use. Do not remove top cap.
- Handle with care.

- Do not attempt to dismantle this product.
- Follow printed instructions on this product at all times.

7.2 Storage:

- Store in manufacturers approved packaging in a well ventilated area away from sources of heat or direct sunlight.
- Temperature of storage to be between 5°C and 50°C.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 During Function	The product is to be held at arms length pointing downwind. Do not point at people. Keep out of reach of children.
8.2 Engineering Controls:	No specific controls necessary.
8.3 Respiratory Protection:	No specific controls necessary.
8.4 Skin Protection:	Gloves are recommended when handling these articles.
8.5 Eye Protection:	No specific controls necessary.
8.6 Personal Protective Equipment:	No specific controls necessary.
8.7 General Hygiene Considerations:	Personal hygiene – wash hands after use.
8.8 Exposure Guidelines:	No exposure guidelines are available for this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance:	The product consists of a metal case containing smoke composition and is fitted with a pull cord ignition . The top end is protected by a waterproof cap. Smoke emission is from the top end of the case.		
9.2 Stability in Water:	Product is waterproof.	9.3 Reaction with water:	None
9.4 Odour:	None	9.5 Boiling Point:	N/A
9.6 State:	Solid	9.7 Vapour Pressure:	N/A
9.8 Vapour Density:	N/A	9.9 Evaporation Rate:	N/A
9.10 Melting Point:	120 oC	9.11 Solubility in water:	N/A
9.12 Specific Gravity:	N/A	9.13 pH:	N/A
9.14 Colour:	Various		

SECTION 10: STABILITY AND REACTIVITY

10.1 Stability:	This product is stable under normal conditions.
10.2 Incompatibility:	Solvents, hydrocarbons, petroleum based products.
10.3 Hazardous Decomposition:	N/A
10.4 Conditions To Avoid:	Avoid extreme heat, keep away from sources of ignition.
10.5 Hazardous Polymerisation:	N/A

SECTION 11: TOXICOLOGICAL INFORMATION

Under normal operating circumstances, there are no known acute toxic hazards resulting from single exposure to the products of combustion from this Lifesmoke Kel. However abuse or misuse of the product could result in situations where exposure to the combustion products could reach harmful levels in susceptible individuals. The following information relates to the individual constituents of the smoke composition and is more relevant to prolonged contact with these materials.

INGREDIENT	OSHA / PEL	EH40/2002	LD50
Potassium chlorate Potassium Nitrate Antimonium Sulphure	Not established. Not established. Not established.	None specified. None specified. None specified.	1870 mg/m ³ (oral rat). 3750 mg/m ³ (oral rat). 20.000 mg/m ³ (oral rat).

SECTION 12: ECOLOGICAL INFORMATION

There is no information available at the present time relating to ecological effects for this product.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Fired Products:	Subject to local authority arrangements.
13.2 Time Expired Products:	Return to p. Oroquita or distributor or local police, fire or coastguard forces as permitted by local regulations for disposal or recycling.
13.3 Damaged Products:	Repack in original packaging and treat as time expired product.

SECTION 14: TRANSPORT INFORMATION

14.1 Packaging specifications: 14.1 UN Hazard Code:	1.4 G
14.2 UN Number:	0197
14.3 UN Proper Shipping Name:	SMOKE-PRODUCING SIGNAL
14.4 IMCOL:	N/A
14.5 NATO Stock No:	N/A
14.6 Packaging Group:	P135
14.7 UN Packaging ID No:	4G/Y50/S/**/E/H-522/Adrexplo 4G/Y25/S/**/E/H-559/Adrexplo 4G/Y10/S/**/E/H-1455/Adrexplo
14.8 Transportation:	Transportation must be carried out in accordance with all statutory regulations for the carriage of dangerous goods.

SECTION 15: REGULATORY INFORMATION

15.1 Classification:	Explosive. UN Class 1.
15.2 Hazard Symbol:	Orange Diamond - Explosive, on outer packaging.
15.3 Risk Phrases	N/A.
15.4 Safety Phrases	N/A.

SECTION 16: OTHER INFORMATION

This product is designed to be hand held and for use in emergency signalling situations. Its main application is short range distress signalling particularly at night time. When user instructions are followed, this product presents minimal risk to the user and those in the general vicinity of the product. This product is for outdoor use only. When used for demonstration purposes always stand upwind of product.

The information contained in this data sheet meets the requirements of the UK Health and Safety at Work Act 1974 under section 6 and the Control of Substances Hazardous to Health Regulations 1994. It also complies with US Federal OSHA Hazard Communication Standard 29 CFR 1910.1200 and ANSI Z400.1-1998.

List of Acronyms and Abbreviations used within this MSDS.

ANSI	American National Standards Institute
CAS	Chemical Abstract Service
CFR	Code of Federal Regulations
EH40/2002	Annual UK Health and Safety Executive publication containing the list of Maximum Exposure Limits (MEL's) and Occupational Exposure Limits (OEL's) for use with the Control of Substances Hazardous to Health Regulations 1999. Data quoted for 8 Hr
MEL	Time Weighted Average.
COSHH	Lethal Dose
TWA	Lower Temperature Limit
LD	Material Safety Data Sheet
LTL	Not Applicable
MSDS	Occupational Safety and Health Administration (US)
N/A	Permissible Exposure Limit
OSHA	Self-Contained Breathing Apparatus
PEL	Sulphur Free Gunpowder
SCBA	United Nations
SFG	Total Inhalable Dust
UN	Respirable Dust
TID	
RD	

The above information is given based on the present state of our knowledge of this product and is, to the best of our knowledge and belief, accurate at the time of publication. No warranty given, either express or implied, with respect to the accuracy, reliability or completeness of the information contained herein and we will assume no liability resulting from its use. The user must satisfy themselves that the information provided is entirely suitable for their particular use.