

# MATERIAL SAFETY DATA SHEET



Refer to Section 16 for List of Acronyms and Abbreviations

SECTION 1: IDENTIFICATION		
<b>1.1 Product Name:</b>	<b>BUOYANT SMOKE SIGNAL</b>	MSC.48(66)MSC.81(70)
<b>1.2 Product Code:</b>	JHB-4	
<b>1.3 Description:</b>	The Buoyant smoke signal is a hand activated, buoyant pyrotechnic signal which emits bright orange smoke for outdoor signalling in daytime emergency or distress situations.	
<b>1.4 Manufacturers Name:</b>	<i>Manufacturer:</i> Jiangsu SHuahai Marine Signals Manufacturing Co., Ltd. No.158, Ruijiang North Road, Haimen District, Nantong City, Jiangsu Province. China.	
<b>1.5 Address:</b>	TEL: +86 (513) 82212760 FAX: +86(513) 82207771	
<b>1.6 Tel No&amp;Email</b>	Email: <a href="mailto:huahai@cn-huahai.com">huahai@cn-huahai.com</a> <a href="mailto:tonybocelle@hotmail.com">tonybocelle@hotmail.com</a> Web site: <a href="http://www.cn-huahai.cn">www.cn-huahai.cn</a>	
SECTION 2: INFORMATION ON HAZARDOUS INGREDIENTS		
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.		
INGREDIENT	CAS NO.	MASS PER PRODUCT
Orange Dye	00842-07-9	123g
Potassium Perchlorate	07778-74-7	8g
Lactose	00063-42-3	16g
Nitrate	00506-93-4	52g
Pyrotechnic Composition	N/A	1g
		Total:200g
SECTION 3: HAZARD IDENTIFICATION		
<ul style="list-style-type: none"> <li>• <b>3.1 General Hazards:</b>( When fired, dense orange smoke is emitted from this product. Smoke canister becomes hot.)</li> <li>• Once ignited, do not continue to hold canister, throw overboard.</li> <li>• <b>Do not point (and fire) product at people or property.</b></li> <li>• <b>Keep out of reach of children.</b></li> <li>• <b>Do not fire in confined spaces.</b> Product is designed for outdoor use only.</li> <li>• In its unfired form, the product presents no hazard.</li> <li>• Keep product away from extreme heat and sources of ignition.</li> <li>• During function, avoid inhalation of smoke.</li> </ul> <p><b>3.2 Health Hazards:</b></p> <ul style="list-style-type: none"> <li>• If product is damaged, the contents may be harmful to skin, eyes and respiratory tract.</li> <li>• Smoke produced may cause irritation to eyes and throat.</li> <li>• 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.</li> <li>• Medical conditions that may be aggravated by exposure to smoke are respiratory diseases that include Asthma and Emphysema.</li> <li>• Risk of receiving burns during normal usage is highly unlikely.</li> </ul> <p><b>3.3 Environmental Hazards:</b></p> <ul style="list-style-type: none"> <li>• Dense orange smoke is produced on ignition of this product. Product should be fired in open space. Confined smoke can cause considerable stain damage to walls, soft furnishings and clothing material which cannot be easily cleaned.</li> </ul> <p>Products of combustion include dye, water, nitrogen, hydrogen, carbon, carbon dioxide and carbon monoxide.</p>		
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:		
<b>4.1 Eye Contact:</b>	Flush with water for a lot once. If symptoms persist seek medical advice.	
<b>4.2 Skin Contact:</b>	Remove contaminated clothing. Wash exposed areas with soap and water. Do not use solvents or thinners of any kind.	
<b>4.3 Inhalation:</b>	Make patient drink water. Do not induce vomiting. Seek medical attention at once.	
SECTION 5: FIRE FIGHTING MEASURES		

Flammable Properties: N/A	Flash Point LTL (°C): N/A	Auto Ignition Temperature: N/A	
Flammability Limits: N/A			
<b>5.1 Extinguishing Agent:</b> <b>5.2 Special Fire Fighting Procedures:</b> <b>5.3 Fire Fighting Equipment:</b>	Use copious amounts of water to control the burn. Once product has ignited the store will burn until all composition has been exhausted. <b>Projectile Hazard</b> will be present during and after fire. For fires in enclosed areas fire fighters must use self-contained breathing apparatus (SCBA).		
<b>SECTION 6: ACCIDENTAL RELEASE MEASURES</b>			
<b>6.1 Safeguards:</b> <b>6.2 Spillage:</b>  <b>6.3 Other Precautions:</b>	Keep product away from all sources of ignition. 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. Contact appropriate emergency services.		
<b>SECTION 7: HANDLING AND STORAGE</b>			
<b>7.1 Handling:</b> <ul style="list-style-type: none"> <li>Ensure that the transit cap and foil seal remain in position until such time as product is required for use.</li> <li>Handle with care.</li> <li><b>Do not attempt to dismantle this product.</b></li> <li><b>Follow printed instructions on this product at all times.</b></li> </ul> <b>7.2 Storage:</b> <ul style="list-style-type: none"> <li>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 40°C.</li> </ul>			
<b>SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION</b>			
<b>8.1 During Function</b>  <b>8.2 Personal Protective Equipment:</b> <b>8.3 Exposure Guidelines:</b>	The product is to be thrown overboard immediately after initiation. Ensure all personnel in the vicinity are upwind of smoke. Do not point at people. Keep out of reach of children. No specific controls necessary. No exposure guidelines are available for this product.		
<b>SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES</b>			
<b>9.1 Appearance:</b>	The product consists of a corrosion resistant steel canister which contains a consolidated smoke composition. The pull cord ignition system is protected by a foil seal barrier and a plastic push fit transit cap. The product is completely sealed and once initiated, smoke will burst through the exit hole within the lid.		
<b>9.2 Stability in Water:</b> <b>9.4 Odour:</b> <b>9.6 State:</b> <b>9.8 Vapour Density:</b> <b>9.10 Melting Point:</b> <b>9.12 Specific Gravity:</b> <b>9.14 Colour:</b>	Product is waterproof. None Solid N/A 120 °C N/A Orange, Various	<b>9.3 Reaction with water:</b> <b>9.5 Boiling Point:</b> <b>9.7 Vapour Pressure:</b> <b>9.9 Evaporation Rate:</b> <b>9.11 Solubility in water:</b> <b>9.13 pH:</b>	None N/A N/A N/A N/A N/A
<b>SECTION 10: STABILITY AND REACTIVITY</b>			
<b>10.1 Stability:</b> <b>10.2 Incompatibility:</b> <b>10.3 Hazardous Decomposition:</b> <b>10.4 Conditions To Avoid:</b> <b>10.5 Hazardous Polymerisation:</b>	This product is stable under normal conditions. Solvents, hydrocarbons, petroleum based products. N/A Avoid extreme heat, keep away from sources of ignition. N/A		
<b>SECTION 11: TOXICOLOGICAL INFORMATION</b>			
Under normal operating circumstances, there are no known acute toxic hazards resulting from single exposure to the products of combustion from this Lifesmoke OS-3. 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
Solvent Yellow Dye	Not established.	None specified.	5,000mg /kg (oral rat).
Potassium Chlorate	Not established.	None specified.	7,000mg/kg (oral rat).
Lactose	Not established.	None specified.	None specified.
Nitrify kapok	Not established.	Not established.	
Gunpowder	Nuisance dust 15mg/m <sup>3</sup> 8hr TWA.	None specified.	None specified.

**SECTION 12: ECOLOGICAL INFORMATION**

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

**SECTION 13: DISPOSAL CONSIDERATIONS**

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

**SECTION 14: TRANSPORT INFORMATION**

<b>14.1 UN Hazard Code:</b> 1.4G	<b>14.2 UN Number:</b> 0197	<b>14.3 UN Proper Shipping Name:</b> SIGNAL, SMOKE
<b>14.4 UN Packaging ID No:</b>	4G/Y20/S/XX, CN/C230900 PI:XXX	
<b>14.5 Transportation:</b>	Transportation must be carried out in accordance with all statutory regulations for the carriage of dangerous goods.	

**SECTION 15: REGULATORY INFORMATION**

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

**SECTION 16: OTHER INFORMATION**

This product is designed to be deployed on water and for use in emergency signalling situations. Its main application is short range distress signalling during the day. 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.

**List of Acronyms and Abbreviations used within this MSDS.**

<b>CAS</b>	Chemical Abstract Service
<b>LTL</b>	Lower Temperature Limit
<b>MSDS</b>	Material Safety Data Sheet
<b>N/A</b>	Not Applicable
<b>PEL</b>	Permissible Exposure Limit
<b>SCBA</b>	Self-Contained Breathing Apparatus
<b>SFG</b>	Sulphur Free Gunpowder
<b>UN</b>	United Nations
<b>TID</b>	Total Inhalable Dust
<b>RD</b>	Respirable Dust

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.