

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** SIGNAL DISTRESS DAY AND NIGHT NO.1 MK5  
**Synonym(s)** EXP: 08-2018 • MUNB • NSN: 1370-99-551-6344 • NSN: 4220-66-142-4510 • OBJ ID: AY438884 • PART NO: A307100 • PART NO:6RBA  
A351, A352, A353, A354, A355 • SIGNAL DISTRESS DAY AND NIGHT NO.1 MK5

### 1.2 Uses and uses advised against

**Use(s)** FLARES • SIMULATE SMOKE • SMOKE SIMULATION

### 1.3 Details of the supplier of the safety data sheet

**Supplier name** CHEMRING AUSTRALIA PTY LTD  
**Address** 230 Staceys Rd, Lara, VIC, Australia, 3212  
**Telephone** +61 3 5220 8500  
**Fax** +61 3 5282 3545  
**Email** info@chemring.com.au  
**Website** http://www.chemring.com.au

### 1.4 Emergency telephone number(s)

**Emergency** +61 (0)402 130005

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS Classification(s)** Explosives: Division 1.4  
Acute Toxicity: Oral: Category 4  
Acute Toxicity: Skin: Category 4  
Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 2A  
Acute Toxicity: Inhalation: Category 4  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3

### 2.2 Label elements

**Signal word** WARNING

**Pictograms**



**Hazard statement(s)**

H204 Fire or projection hazard.  
H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.

**Prevention statement(s)**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P240 Ground/bond container and receiving equipment.  
P250 Do not subject to grinding/shock/friction/rough handling.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s)**

- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment is advised - see first aid instructions.
- P330 Rinse mouth.
- P332 + P337 + P313 If skin or eye irritation occurs: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before re-use.
- P370 + P380 In case of fire: Evacuate area.
- P372 Explosion risk in case of fire.
- P373 DO NOT fight fire when fire reaches explosives.
- P374 Fight fire with normal precautions from a reasonable distance.

**Storage statement(s)**

- P401 Store in accordance with relevant site and storage provisions.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.

**Disposal statement(s)**

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

**2.3 Other Hazards**

No information provided.

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

**3.1 Substances / Mixtures**

Ingredient	CAS number	EC number	Content
POTASSIUM NITRATE	7757-79-1	231-818-8	<60%
DYE(S)	Not Available	Not Available	<50%
STRONTIUM NITRATE	10042-76-9	233-131-9	35 - 45%
POTASSIUM CHLORATE	3811-04-9	223-289-7	25 - 30%
MAGNESIUM	7439-95-4	231-104-6	20 - 30%
POTASSIUM PERCHLORATE	7778-74-7	231-912-9	5 - 15%
DIBUTYL PHTHALATE	84-74-2	201-557-4	2 - 4%

**4. FIRST AID MEASURES**

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**4.1 Description of first aid measures**

**Eye**                                    If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation**                        If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin**                                    If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion**                         For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities**                No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

No information provided.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

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**5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

Use large volumes of water to control the burn and spread of flames. Once product is ignited it is very difficult to extinguish. Evacuate area and contact emergency personnel.

**5.2 Special hazards arising from the substance or mixture**

EXPLOSIVE. Product is designed to produce a controlled explosion when activated. May evolve smoke and toxic gases (metal/ carbon/ sulphur/ nitrogen oxides and fumes) when exploded or heated to decomposition. The flare burns with intense heat (>2000°C).

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Exposure to heat may result in detonation, however effects are expected to be limited to the package. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Do not attempt to fight fire if other explosives are present. Use waterfog to cool unexploded cartridges.

**5.4 Hazchem code**

1YE

1	Coarse Water Spray.
Y	Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.
E	Evacuation of people in and around the immediate vicinity of the incident should be considered.

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**6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

Clear area of all unprotected personnel. Contact emergency services where appropriate. CAUTION: Heating, impact or static charge may cause explosion.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

If cartridges are spilt or containers damaged, contain spillage, then collect and place in suitable containers for disposal. Eliminate all sources of ignition.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

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**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

**7.3 Specific end use(s)**

No information provided.

**8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure standards**

Substance	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Dibutyl phthalate	SWA (AUS)	--	5	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering Controls** Avoid inhalation. Mechanical extraction ventilation is recommended when removal of the atmospheric contaminants is required. Maintain dust / fume levels below the recommended exposure standard.

**PPE** No PPE has been assigned for this product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	ABS PLASTIC BODY, SEALED AT BOTH ENDS WITH A SCREW OFF PLASTIC CAP
<b>Odour</b>	SLIGHT ODOUR
<b>Odour Threshold</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Melting Point</b>	NOT AVAILABLE
<b>Boiling Point</b>	NOT AVAILABLE
<b>Flash Point</b>	> 250°C
<b>Evaporation Rate</b>	NOT AVAILABLE
<b>Flammability</b>	COMBUSTIBLE
<b>Upper Explosion Limit</b>	NOT AVAILABLE
<b>Lower Explosion Limit</b>	NOT AVAILABLE
<b>Vapour Pressure</b>	NOT AVAILABLE
<b>Vapour Density</b>	NOT AVAILABLE
<b>Solubility (water)</b>	SOLUBLE
<b>Partition Coefficient</b>	NOT AVAILABLE
<b>Autoignition Temperature</b>	NOT AVAILABLE
<b>Decomposition Temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive Properties</b>	Fire or projection hazard
<b>Oxidising Properties</b>	NOT AVAILABLE
<b>Specific Gravity</b>	NOT AVAILABLE

**9.2 Other information**

No information provided.

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Contact with combustible materials (wood, paper, oil). Contamination with moisture.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources. Incompatible with alkalis (e.g. sodium hydroxide) and reducing agents (e.g. sulphites).

### 10.6 Hazardous decomposition products

May evolve potassium compounds, strontium salts, magnesium salts and volatilised dyestuffs when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Health hazard summary</b>	Enclosed Solid. The flare is not considered hazardous to health in its unfired form. When fired, a rocket propelled flare will be ejected at high velocity. Exposure to contents may be harmful and irritating to the eyes, skin and respiratory system. On initiation of the flare end a bright red flame, intense heat and smoke is produced, avoid looking directly at the burning flare.
<b>Eye</b>	Irritant. Due to product form and nature of use, the potential for exposure is reduced. However, direct contact with contents or fumes may result in irritation, lacrimation and conjunctivitis.
<b>Inhalation</b>	Irritant. Over exposure to contents may result in respiratory irritation. Persons with pre-existing respiratory disorders are more susceptible to developing adverse health effects and should avoid atmospheres contaminated with smoke/fume.
<b>Skin</b>	Irritant. Product encapsulation minimises skin contact potential, however contact with contents or smoke may cause irritation, pain and redness.
<b>Ingestion</b>	Ingestion is considered unlikely due to product form. However, ingestion of contents of the enclosed product may result in gastrointestinal irritation, nausea, headache, dizziness and diarrhoea.
<b>Toxicity data</b>	<p>POTASSIUM NITRATE (7757-79-1)</p> <p>LC50 (Inhalation): &gt; 0.527 mg/L/4h (rat)</p> <p>LD50 (Ingestion): 3015 mg/kg (rat)</p> <p>LD50 (Skin): &gt; 5000 mg/kg (rat)</p> <p>LDLo (Intravenous): 100 mg/kg (cat)</p> <p>TDLo (Ingestion): 598 mg/kg (rat - 1-22 days pregnant)</p> <p>STRONTIUM NITRATE (10042-76-9)</p> <p>LD50 (Ingestion): 1826 mg/kg (mouse)</p> <p>LD50 (Intraperitoneal): 540 mg/kg (rat)</p> <p>TCLo (Inhalation): 14700 ug/m<sup>3</sup>/17 weeks - intermittently (rat)</p> <p>TDLo (Ingestion): 23 g/kg/17 weeks - intermittently (rat)</p> <p>POTASSIUM CHLORATE (3811-04-9)</p> <p>LD50 (Ingestion): 1870 mg/kg (rat)</p> <p>LDLo (Ingestion): 1200 mg/kg (dog)</p> <p>LDLo (Intraperitoneal): 1500 mg/kg (rat)</p> <p>MAGNESIUM (7439-95-4)</p> <p>LDLo (Ingestion): 230 mg/kg (dog)</p>

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**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Results of PBT and vPvB assessment**

No information provided.

**12.6 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** Collect and reuse/return to container. Contact the manufacturer/supplier for additional information (if required).  
**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**



	Land Transport (ADG)	Sea Transport (IMDG/IMO)	Air Transport (IATA/ICAO)
<b>14.1 UN number</b>	0191	0191	0191
<b>14.2 UN proper shipping name</b>		SIGNAL DEVICES, HAND	
<b>14.3 Transport hazard classes</b>			
<b>DG division</b>	1.4G	1.4G	1.4G
<b>Subsidiary risk(s)</b>	None Allocated	-	-
<b>14.4 Packing group</b>	None Allocated	-	-
<b>14.5 Environmental hazards</b>		None Allocated	
<b>14.6 Special precautions for user</b>			
<b>Hazchem Code</b>	1YE		
<b>EMS</b>		F-B, S-X	

**15. REGULATORY INFORMATION**

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

**Poison schedule** Classified as a Schedule 5 Poison using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).  
**Classifications** F - Flammable  
 F+ - Extremely flammable

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O - Oxidising  
 Xi - Irritant  
 Xn - Harmful

**Risk phrases**

R8:                                    Contact with combustible material may cause fire.  
 R9:                                    Explosive when mixed with combustible material.  
 R11:                                   Highly flammable.  
 R15:                                   Contact with water liberates highly flammable gases.  
 R20/21/22:                        Harmful by inhalation, in contact with skin and if swallowed.  
 R36/37/38:                        Irritating to eyes, respiratory system and skin.

**Safety phrases**

S17:                                    Keep away from combustible material.  
 S23:                                    Do not breathe gas/fumes/vapour/spray (where applicable).  
 S24/25:                                Avoid contact with skin and eyes.  
 S51:                                    Use only in well ventilated areas.

**WHS regulatory information**

Ingredient name	CAS number	Regulation	Details
POTASSIUM NITRATE	7757-79-1	Restricted Hazardous Chemicals	Nitrates. For wet abrasive blasting.
STRONTIUM NITRATE	10042-76-9	Restricted Hazardous Chemicals	Nitrates. For wet abrasive blasting.

**Inventory listing(s)**            **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
 All components are listed on AICS, or are exempt.

**15.2 Chemical safety assessment**

No information provided.

**16. OTHER INFORMATION**

**Additional information**    RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**HEALTH EFFECTS FROM EXPOSURE:**  
 It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
 The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**Abbreviations**

ACGIH                                American Conference of Governmental Industrial Hygienists  
 CAS #                                Chemical Abstract Service number - used to uniquely identify chemical compounds  
 CNS                                    Central Nervous System  
 EC No.                                EC No - European Community Number  
 EMS                                    Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)  
 GHS                                    Globally Harmonized System  
 GTEPG                                Group Text Emergency Procedure Guide  
 IARC                                    International Agency for Research on Cancer

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LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report Status**

This ChemAlert report has been independently compiled by RMT's scientific department utilising the original Safety Data Sheet ('SDS') for the product provided to RMT by the manufacturer. The information is based on the latest chemical and toxicological research and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. It is an independent collation by RMT of information obtained from the original SDS for this product. Its content has not been authorised or verified by the manufacturer / distributor of the chemical to which it relates.

This ChemAlert report does not constitute the manufacturer's original SDS and is not intended to be a replacement for same. It is provided to subscribers of ChemAlert as a reference tool only, is not all-inclusive and does not represent any guarantee as to the properties of the product. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this ChemAlert report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this ChemAlert report.

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**End of Report**