

## PRODUCT USE DATA SHEET

### Generic Sheet for Bengal 0589-T1-0372

**These burn with a very intense bright light and large amounts of white smoke. The colour and effects are as labelled. They also produce local hot sparks and dross but almost no noise.**

<b>CAD</b>	ID N°: <b>XI/5015/195/6</b>	Serial N°: <b>00505</b>	Title: <b>Bengal</b>
<b>CE</b>	Reg: <b>0589-T1-0372</b>	Category: <b>T1 - Outdoor</b>	Type: <b>BENGAL FLARE</b>
	Class/UN N°: <b>1.4G/0431</b>	Batch N°: <b>N/A</b>	Max NEC: <b>400 (Grams/unit)</b>

**ONLY FOR USE BY PERSONS AGED 18 YEARS OR OVER**

#### FS4 **SAFETY FIRST**

- SC001 T1 users may only use these articles for theatrical purposes within Stage, film and television productions, as well as within music or show productions.
- sc002 All T1 users must abide by the stated Minimum Safety Distance on the product and given below.\*
- sc004 Always test a sample of the product to be used to confirm suitability to the job and the venue.\*
- sc018 Do not fire these products in an unsuitable confined space or an area with poor ventilation.\*
- sc005 Typically T2 users should allow at least 1.5 times the Stated Directional Effect (or calculated Sound distance) as a safety margin when firing towards (or near) persons, scenery or flammable objects in the effects designed orientation.\*
- sc013b These products burn relatively slowly producing a bright light of the effect/colour indicated and lots of smoke. They produce virtually no noise.
- sc045 This product will survive being dropped even when lit, however avoid un-necessary force or rough handling. Familiarise yourself with their burn characteristics before using them in a show situation.
- sc019 These products are designed to be fired straight upwards. If you wish to fire at any other angle, please contact Wells Fireworks for further advice.\*
- sc015 Do not fire directly underneath any persons, scenery or flammable objects.\*
- sc039 This products outer case burns down in use, so fix or hold in a suitable manner with this in mind.
- sc037 This product will take ignition freely from hot sparks or other free ignition sources. Avoid ALL such sources of accidental initiation. If damaged do NOT use.
- SC033 Ensure the products are secured firmly, using suitable holders, fittings or containers as necessary. Always avoid undue force when rigging products as this may damage the units.
- SC030 This product may be fused or the ignition bolstered using Wells Fireworks Tapematch™
- SC046 \* Please Call or Email Wells Fireworks for further details if you intend to use these effects in a way other than intended by the manufacturer.

#### FS24 **Product Specific T2 Data for use by Persons With Specialist Knowledge**

Effect Code	CE Variant	A (m)	B		C (m)	D (m)	T (m)	T1 Safety Distances	
			dB	@m				Effect	Radial
BC00000NASTND	Cineflare (Standard)	1	79.4	8	0	0	0.3	2	1
*Example Product Shown - see specific Sheet for accurate data									

FS26 *Key - A: Effect distance. B: Sound Pressure level including the measuring distance. C: Hazardous debris distance.*

FS27 *D: Information on incandescent particles returning to the level from which the device was fired. T: Radial effect distance*

FS28 *T1 Safety Distances: These are the recommended minimum safe use distances for amateur use.*

sc047 *\* Wells Fireworks assumes no liability for the misuse of this product. It is up to the purchaser to ensure the safe use and suitability by Test Firings prior to the performance or public admittance.*

FS1

## WELLS FIREWORKS - GENERAL SAFE USE GUIDE

FS2

(Wells products must not be supplied to or used by a member of the general public or any person under 18)

FS5

### Safety Distances

FS6

T1 users Should only use T1 products and should abide by the minimum Safety Distance specified on each product. Always consider increasing this to allow for noise, airflow or unforeseen incidents, (Units falling over, performers moving, etc.).

FS7

T2 users (Persons with Specialist Knowledge) This distance is for the Operator to calculate using experience and the applicable data given overleaf. This Distance should also take into account the products possible effect on the audience, performers, other staff, scenery, flammable objects, etc. and reasonable variations within batches.

FS8

### Test Firings and Noise Levels

FS9

Always test samples to confirm suitability to the job and the venue. Test any 'new' products outdoors first from a safe distance before trying inside. For T2 users, use of appropriate witness screens may help to determine a products effect on surfaces within the venue. Always monitor noise levels, especially if using a product designed to have a report or concussive effect. These tests will allow an accurate Risk Assessment to be undertaken PRIOR to the event.

FS10

### Smoke, Light and Fumes

FS11

Pyrotechnics produce varying amounts of all or some of the following:- Heat, Smoke, Fumes, Dust, Sparks, Flashes of Light, Noise and Concussion. Do not use in small or poorly ventilated venues as excessive inhalation may cause medical side effects and should always be avoided. If used in large well ventilated areas the smoke and fumes should not pose any problems. However should anyone complain of side effects from inhalation or suffer directly from excessive inhalation, remove them to a fresh air source and seek medical assistance.

FS12

### Spillage, Contamination and Disposal

FS13

If a product bursts or leaks, warn others of the hazard and keep them clear. Remove all sources of ignition. Put on protective gloves and a dust mask, and gently sweep up the loose powder, composition and packing. Secure the waste in a well labelled plastic bag or container. Dispose of in accordance with local regulations.

FS14

### Physical Contact with Pyrotechnic composition

FS15

If powder or composition from a Pyrotechnic contacts skin or eyes, wash the area freely with cold running water. In the case of inhalation remove the victim to fresh air. If composition is swallowed and the victim is still conscious then drink plenty of clean cold water (do NOT induce vomiting). In ALL cases seek medical assistance.

FS16

### Firing Pyrotechnics

FS17

Always use and issue hearing protection as necessary. Always use a professional, isolated firing system. Ensure it can't be fired or left live whilst rigging. Avoid placing cables in locations where they may pick up stray EMF'S. The igniters used in Wells products have a resistance of 1.0  $\Omega$  and require 1.25 A to fire. When calculating the necessary fire voltage always allow a generous margin to cover possible electrical losses in the firing circuit.

FS18

### Mis-fires and Failures

FS19

In the unlikely event of a misfire or product failure always check the complete firing system and re-fire when safe to do so. If after this it is still felt the product is at fault it should be left alone for a minimum of 1 hour. Failed product should be repacked as it was delivered and returned to Wells Fireworks - (After arranging to do so with Wells).

FS20

### Storage and Transport

FS21

The user must comply with the Countries Explosives Regulations. As a rule Pyrotechnics should be stored in a secure, cool, (not cold), dry place with an appropriate licence. No other hazardous material should be stored with them. Access to the Store should only be available to the operator and other approved persons. The products Hazard/UN Code is given overleaf. Pyrotechnics should be stored in their original packaging. If you repack pyrotechnics for transport or storage then they may no longer comply with EU packing and transportation regulations.

FS22

### Handling and Rigging

FS23

Always handle Pyrotechnics carefully - They are not designed to withstand dropping, rough handling or violent vibrations. Avoid sharp edges or rough surfaces which may damage the outer case. Ensure the product is secured firmly. However avoid undue pressure or force as this will damage the product and may cause a malfunction. If damaged, do NOT use. The igniters used are sensitive to stray currents. Keep effects and cables away from high power emf's, stray currents, radio waves and Mobile phones. Avoid direct sources of ignition or intense heat sources. Do not modify these products in any way or use them other than intended. Protect from wet or humid conditions.

FS25

If you have any further question, Please call us on +44 (0)1903 882366 during normal weekday office hours



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## Portfires, Lances & Bengals

## Bengals

CE Type	CE Category	CE name	Reg No	EU-type examination certificate
<b>BENGAL FLARE</b>	<b>T1 - Outdoor</b>	<b>Bengal</b>	<b>0589-T1-0372</b>	<b>0589.PYR.0492/17</b>

*These burn with a very intense bright light and large amounts of white smoke. The colour and effects are as labelled. They also produce local hot sparks and dross but almost no noise.*

Wells Code	Description	Packed in	NEQ (g)	UN No/ Class	Igniter length (mm)
BC000000NASTND	<b>Ciniflare - Standard size</b>	<b>1</b>	<b>400</b>	<b>1.4G/0431</b>	<b>300</b>
BC000000NAMEDM	<b>Ciniflare - Bengal size</b>	<b>1</b>	<b>130</b>	<b>1.4G/0431</b>	<b>300</b>
BBVOCC00NASNGL	<b>Strobing Bengal</b>	<b>1</b>	<b>40</b>	<b>1.4S/0432</b>	<b>0</b>
BIVOCC00WH040S	<b>Illuminating Bengal (40 Secs)</b>	<b>50</b>	<b>200</b>	<b>1.4S/0432</b>	<b>300</b>
BNVOCC00RD060S	<b>Red Bengal</b>	<b>50</b>	<b>90</b>	<b>1.4S/0432</b>	<b>0</b>
BNVOCC00GN060S	<b>Green Bengal</b>	<b>50</b>	<b>90</b>	<b>1.4S/0432</b>	<b>0</b>

TECHNICAL PERFORMANCE SPECIFICATIONS		Effect Distance (A)			Radial Distance (T)			Sound Pressure (B)	@ (m) - (B)	Minimum Safety distance		Hazardous Debris (C)	Incandescent particles (D)	Unit NEC not exceeding
Wells Code	Variant Name	Min (m)	Avg (m)	Max (m)	Min (m)	Avg (m)	Max (m)	(dB)	(m)	Direction (m)	Radial (m)	(m)	(m)	(g)
BC000000NASTND	Cineflare (Standard)	0.5	0.7	1	0.3	0.3	0.3	79.4	8	2	1	0	0	400
BC000000NAMEDM	Cineflare (Bengal)	0.5	0.7	1	0.3	0.3	0.3	79.4	8	2	1	0	0	400
BBVOCC00NASNGL	Strobing Bengal (Std)	0.5	0.7	1	0.3	0.3	0.3	79.4	8	2	1	0	0	42
BIVOCC00WH040S	Illuminating Bengal (40 secs)	0.5	0.7	1	0.3	0.3	0.3	79.4	8	2	1	0	0	135
BNVOCC00RD060S	Red Bengal	0.5	0.7	1	0.3	0.3	0.3	79.4	8	2	1	0	0	80
BNVOCC00GN060S	Green Bengal	0.5	0.7	1	0.3	0.3	0.3	79.4	8	2	1	0	0	80



## SAFETY DATA SHEET

### Bengal

#### **SECTION 1 – PRODUCT DETAILS**

##### *1.1 Product identifier:*

Product Name: Bengal (Various).

CE Reg Number: 0589-T1-0372

##### *1.2 Approved Uses:*

Articles pyrotechnic used for theatrical purposes within stage, film and television productions, as well as within music or show productions.

##### *1.3 Supplier:*

Name: Wells Fireworks (Dartford) Ltd

Address: Home Farm  
Wepham  
West Sussex  
BN18 9RA

England

Contact number: +44 (0)20 8646 2222

Email: info@wellsfireworks.co.uk

##### *1.4 Emergency Contact:*

Please Contact; Health and Safety Executive (HSE) Chemicals Regulation Directorate.

+44 (0)151 951 3317 (Only available during office hours)

## SECTION 2 –HAZARDS & IDENTIFICATION

### 2.1 Classification of the substance or mixture

Physical Hazard: H204 - Fire or projection hazard.

### 2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictograms:



(Letter may be an S or G)

Signal word: PYROTECHNIC

### 2.3 Other hazards

There are no chronic effects from handling the product in an appropriate manner.

## SECTION 3 – INFORMATION ON INGREDIENTS

### 3.1 Substances

<b>Name</b>	<b>CAS No.</b>	<b>EC No.</b>
Acaroid Resin	93164-80-8	298-861-7
Aluminium powder	7429-90-5	231-072-3
Barium Nitrate	10022-31-8	233-020-5
Charcoal	16291-96-6	240-383-3
Dicyandiamide	461-58-5	207-312-8
Gum arabic	9000-01-5	-----
Magnesium Aluminium alloy	7429-90-5	231-072-3
Magnesium powder	7439-54-4	231-104-6
Mannitol	69-65-8	200-711-8
Potassium Nitrate	7757-79-1	231-818-8
Potassium Perchlorate	7778-47-7	231-912-9
PVC	009002-86-2	-
Shellac	9000-59-3	232-549-9
Sodium Oxalate	62-76-0	200-550-3
Strontium Carbonate	1633-05-2	216-643-7
Strontium sulphate (SrSO <sub>4</sub> )	7759-02-6	231-850-2

Yacht Varnish (Naphtha, Terpene, 2-butanone oxime)	64742-48-9, 68956-56-9, 96-29-7	265-150-3, 273-309-3, 202-496-6
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List above covers all products within the Wells Fireworks Bengal range.

## **SECTION 4 – FIRST AID**

### *4.1 Description of first aid measures:*

Generally, in any case of accident or sickness featuring Pyrotechnics, always seek medical advice IMMEDIATELY.

Following the *medical effects* below it is advised *that*:

- *Inhalation* - Remove casualty to fresh air and keep warm and at rest.
- *Skin contact* - Wash immediately with soap and water
- *Eye contact* - Immediately flush with water
- *Ingestion* - If swallowed, rinse the mouth with plenty of water and spit out (only if the person is conscious) and obtain URGENT medical attention.

NOTE; in all cases, Self-protection of the first aider should always be paramount!

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

Irritation to the eyes and irritation to the skin.

### *4.3 Indication of any immediate medical attention and special treatment needed:*

Obvious contact with hot materials or gas on operation of products.

Apply First aid, decontamination measures and treatment of symptoms.

## **SECTION 5 – FIREFIGHTING**

### *5.1 Extinguishing media:*

Do not attempt to extinguish any actively functioning product or a fire which contains live products with ANY form of extinguishing media. Evacuate area immediately and contact emergency services. Any resulting fires caused after the full functioning of a product may be tackled in the prescribed manner.

Suitable/Unsuitable extinguishing media: See above.

### *5.2 Special hazards arising:*

Hazardous combustion products may be produced when functioning. Pyrotechnic devices can burn violently and the state of any fire may be dependent on composition, packaging and containment. See 5.1 above for special precautions.

### *5.3 Advice for firefighters:*

- Exercise extreme caution.
- Ascertain extent of material involved BEFORE combatting fire.
- If unsure keep to a safe distance.
- It is recommended that all firefighters wear self-contained breathing apparatus and chemical protective clothing.

## **SECTION 6 – ACCIDENTAL RELEASE MEASURES SECTION**

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

#### *6.1.1 For non-emergency personnel:*

Suitable personal protective equipment. Remove ignition sources.

#### *6.1.2 For emergency responders:*

Remove persons to safety. Isolate hazard area and deny entry. Ventilate closed spaces before entering.

### *6.2 Environmental precautions:*

Prevent large spillages from entering surface water or drains.

### *6.3 Methods and material for containment and cleaning up:*

Dispose of as special waste in compliance with local and national regulations.

### *6.4 Reference also sections 5, 8 & 13.*

## **SECTION 7 – HANDLING AND STORAGE SECTION**

### *7.1 Precautions for safe handling:*

- Handle with caution.
- Prevent fires. No smoking and no naked flames.
- Avoid aerosol and dust generation. Do not tamper with the item.
- Do not eat, drink or smoke in work areas.
- Wash hands after handling products.

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

- Store in cool, dry place.
- Always store in original packaging with appropriate marking and labelling.
- Stores should be adequately secured and identified.

### *7.3 Specific end use(s):*

The identified use for this product is detailed in section 1.2.

## **SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION**

### *8.1 Control parameters:*

Workplace exposure limits.

### *8.2 Exposure controls:*

8.2.1 Provide adequate ventilation.

8.2.2 PPE: Appropriate Safety goggles.

8.2.3: No specific Environmental exposure controls.

## **SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

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

Appearance: Solid tube containing pressed composition.

As this is essentially a sealed unit chemical properties are not applicable.

### *9.2 Other information:*

No additional information relevant to safe use.

## **SECTION 10 – STABILITY AND REACTIVITY SECTION**

### *10.1 Reactivity:*

No specific data related to reactivity is available.

### *10.2 Chemical stability:*

Stable under recommended conditions of storage and use.

### *10.3 Possibility of hazardous reactions:*

No hazardous reaction when handled and stored in accordance with the provisions.

### *10.4 Conditions to avoid:*

- High temperatures,
- Excessive shock or rough handling
- Static discharge,
- Vibrations or other physical stresses
- High localise EMF
- And any situations that might result in a hazardous situation.

### *10.5 Incompatible materials:*

As an effectively sealed unit, incompatible materials are not applicable.



#### *10.6 Hazardous decomposition products:*

Decomposition will not occur during normal circumstances of storage, transport and handling.

Upon functioning various gases may be emitted, including oxides, during the planned decomposition of the product.

### **11 – TOXICOLOGICAL INFORMATION SECTION**

#### *11.1 Information on toxicological effects:*

No material is exposed during normal circumstances of storage, transport and handling.

As this is a sealed unit this only applies to spillages.

May cause eye and skin irritation. Inhalation or ingestion may cause discomfort.

### **12 – ECOLOGICAL INFORMATION**

*12.1 Toxicity: Not classified as dangerous for the environment/aquatic toxicant.*

*12.2 Persistence and degradability: N/A*

*12.3 Bio-accumulative potential: N/A*

*12.4 Mobility in soil: N/A*

*12.5 Results of PBT and vPvB assessment: N/A*

*12.6 Other adverse effects: N/A*

### **13 – DISPOSAL CONSIDERATIONS**

#### *13.1 Waste treatment methods:*

No specific regulations apply to packaging or spent devices.

Unused devices should be either:

- Returned to the manufacturer,
- Functioned in a safe manner or
- Soaked in a vessel of water for 48 hours. (If soaked in water, review local and national requirements prior to disposal).

### **14 – TRANSPORT INFORMATION**

#### *14.1 UN number:*

UN0431 or UN0432

*14.2 UN proper shipping name:*

Articles Pyrotechnic for Technical Purposes.

*14.3 Transport hazard class(es):*

1.4G (UN0431) or 1.4S (UN0432).

*14.4 Packing group:*

Packing Group II.

*14.5 Environmental hazards:*

None.

*14.6 Special precautions for user:*

No smoking or naked flames.

*14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:*

N/A

**15 – REGULATORY INFORMATION\*/**

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

Explosives Regulations 2014 and all orders of council, HSG 36, Local Authorities and the Health and Safety Executive.

Pyrotechnic Articles European Directive 2013/29/EU.

*15.2 Chemical Safety Assessment:*

N/A

**16 – OTHER INFORMATION**

All Information for this Safety Data Sheet was obtained from sources which are considered reliable and technically accurate. Every effort has been made to ensure full disclosure of any product hazards, however some data is not available and is so stated.

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