



# Safety Data Sheet

## Stormproof Matches

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Reference: SDSBCBAmend001

Version: 1

Review Date: 04-Sep-2019

### 1. Identification of the substance/mixture and of the company/undertaking

|                          |  |
|--------------------------|--|
| Product Identifier       | Stormproof Matches   |
| Synonyms                 | No. 42230 Lifesystems Stormproof Matches<br>No. 2270 Lifesystems Windproof Matches                         |
| Recommended Use          | Ignition   |
| Supplier                 | BCB International Ltd<br>Howell House<br>Lamby Way Industrial Park<br>Cardiff<br>CF3 2EX<br>United Kingdom |
| Website Address          | www.bcbin.com  |
| Emergency Contact Number | +44 (0)29 2043 3700  |

### 2. Hazards identification

#### Classification of the substance or mixture

|                              |   |                  |
|------------------------------|---|------------------|
| Physical and Chemical Hazard | Flammable solids  | Category 2       |
| Health Hazard                | Acute toxicity – Oral                                     | Category 4       |
|                              | Acute toxicity – Dermal                                   | Category 5       |
|                              | Acute toxicity – Inhalation                               | Category 4       |
|                              | Skin corrosion/irritation                                 | Category 3       |
|                              | Serious eye damage/eye irritation                         | Category 2B      |
|                              | Respiratory sensitisation                                 | Not classifiable |
|                              | Skin sensitisation  | Not classifiable |
|                              | Germ cell mutagenicity                                    | Not classifiable |
|                              | Carcinogenicity   | Not classifiable |
|                              | Reproductive toxicity                                     | Not classifiable |
| Environmental Hazard         | Specific target organ toxicity systemic single exposure   | Not classifiable |
|                              | Specific target organ toxicity systemic repeated exposure | Not classifiable |
| Environmental Hazard         | Hazard to the aquatic environment – chronic               | Category 2       |
|                              | Hazard to the aquatic environment – acute                 | Not classifiable |

#### Label elements

##### Symbol



H228



H302

Hazard statement Flammable solid

Harmful if swallowed

Signal word Danger



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|                         |            |  |
|-------------------------|------------|--|
| Precautionary statement | Prevention | Keep away from heat/sparks/open flames/hot surfaces<br>No smoking  |
|                         | Response   | IF IN EYES: Rinse cautiously with water for several minutes<br>Remove contact lenses, if present and easy to do. Continue rinsing              |
|                         | Storage    | Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, foodstuffs and clothing and out of direct sunlight |

### Other hazards

Any National or Regional Information      Classification according to EU Directives 67/548/EEC or 1999/45/EC  
F, Xn R8 R20/22

### 3. Composition/information on ingredients

#### Mixtures

| Ingredients Name    | CAS No.    | Formula   | Content (%) | EINECS No. |
|---------------------|------------|---|-------------|------------|
| Potassium Chlorate  | 3811-04-9  | KClO <sub>3</sub>   | 50          | 223-289-7  |
| Quartz Powder       | 14808-60-7 | SiO <sub>2</sub>  | 20          | 238-878-4  |
| Bone Glue           | 9000-70-8  |   | 12          | 232-554-6  |
| Zinc Oxide          | 1314-13-2  | ZnO <sub>2</sub>  | 5           | 215-222-5  |
| Celatom             | 61790-53-2 |   | 3           | 212-293-4  |
| Rosin               | 8050-09-7  | C <sub>20</sub> H <sub>30</sub> O <sub>2</sub>                | 2           | 232-475-7  |
| Starch              | 9005-25-8  | (C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> ) <sub>n</sub> | 2           | 232-679-6  |
| Red Phosphorus      | 7723-14-0  | P   | 1 – 5       | 231-768-7  |
| Boric Acid          | 10043-35-3 | H <sub>3</sub> BO <sub>3</sub>                                | 1           | 233-139-2  |
| Aluminium Hydroxide | 21645-51-2 | AlH <sub>3</sub> O <sub>3</sub>                               | 1           | 244-492-7  |
| Antimony Oxide      | 18282-10-5 | SbO <sub>2</sub>  | 0.01 – 0.1  | 242-159-0  |

|  |               |
|--|---------------|
| Impurities or additives that contribute to classified material | Not available |
| Molecular weight   | —             |
| TSCA inventory   | —             |
| EC INDEX NUMBER  | —             |

### 4. First aid measures

|                |   |
|----------------|---|
| General Advice | Consult a physician. Show this safety data sheet to the doctor in attendance.       |
| Inhalation     | Move to fresh air immediately. Get medical aid if symptoms persist.                 |
| Skin Contact   | Wash affected area with soap and water. If symptoms develop seek medical attention. |



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|                               |  |
|-------------------------------|--|
| Eye Contact                   | In case of contact with eyes, rinse immediately with plenty of water. Get medical aid if symptoms persist.                               |
| Ingestion                     | Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid. |
| Main Symptoms                 | Not available.   |
| Personal Protective Equipment | Not available.   |
| Medical Attention             | Not available.   |
| Notes to Physician            | Treat symptomatically.   |

### 5. Firefighting measures

|   |   |
|---|---|
| General Information                           | Not available.  |
| Extinguishing Media                           | Carbon dioxide, water spray, water  |
| Unsuitable Extinguishing Media                | Not available.  |
| Fire & Explosion Hazard                       | This product is a flammable solid. This product will burn if exposed to fire.                     |
| Special Firefighting Methods                  | Not available.  |
| Special Protective Equipment for Firefighters | As in any fire, wear self-contained/pressure demand breathing apparatus and full protective gear. |

### 6. Accidental release measures

|                     |  |
|---------------------|--|
| General Information | Wear appropriate personal protective equipment and clothing to minimise exposure.  |
| Spills/Leaks        | Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Dispose of waste according to local Environmental Protection Authority and statutory regulations. If large quantities of this material enter the waterways contact the Environmental Protection Authority or your local Waste Management Authority. |

### 7. Handling and storage

#### Handling

|                    |   |
|--------------------|---|
| Technical Measures | Not available.  |
| Ventilation        | Use approved storage containers in the work area.   |
| Precaution         | Ensure a high level of personal hygiene is maintained when using this product, i.e. always wash hands before eating, drinking, smoking or using the toilet. |



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**Precaution for Safe Handling** Keep material away from sparks, flames and other ignition sources. Post NO SMOKING signs in area of use. Do not use near welding operations, flames or hot surfaces. Prevent release of vapours and mists into workplace air. Use smallest possible amounts in designated areas with adequate ventilation. Have emergency equipment (for fires, spills, leaks, etc) readily available. Label containers. Keep containers closed when not in use. Empty containers may contain residues, which are hazardous.

### Storage

**Technical Measures** Not available.

**Conditions for Safe Storage** Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, foodstuffs and clothing and out of direct sunlight. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Do not stack more than 3 pallets high.

**Safety Packaging Material** Always keep in containers made of the same material as the supply container.

**INCOMPATIBILITIES** Strong oxidizing agents, strong acids and strong alkalis.

**PRECAUTION** Not available.

## 8. Exposure controls/personal protection

**Engineering Measures** Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required.

**Control Parameter** Rosin (CAS No. 8050-09-7):  
United Kingdom WEL – TWA: 0.05 mg/m<sup>3</sup> (fume)  
United Kingdom WEL – STEL: 0.15 mg/m<sup>3</sup> (fume)

**Individual Protection**  
**Respiratory Protection** For most situations, no respiratory protection should be needed; however, in any fire, use an approved respirator.

**Hand Protection** Wash hands after use and before eating.

**Eye Protection** Wear appropriate protective glasses or chemical safety goggles.

**Skin Protection** Wear appropriate protective gloves to prevent skin exposure. The glove material has to be impermeable and resistant to the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Clothing Protection** –

## 9. Physical and chemical properties

**Appearance** Solid, brown-black matchhead, woody matchstick

**Odour** Slight odour



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|                                 |  |
|---------------------------------|--|
| pH                              | <4.7   |
| Melting Point                   | Not applicable                               |
| Initial Boiling Point           | Not applicable                               |
| Flash Point                     | Not applicable                               |
| Flammability                    | Flammable                                    |
| Explosive Limits                | Lower: Not available<br>Upper: Not available |
| Vapour Pressure                 | Not applicable                               |
| Specific Gravity                | 2.477  |
| Relative Vapour Density (air=1) | Not applicable                               |
| Evaporation Rate                | Not applicable                               |
| Relative Density (water=1)      | 1.3  |
| Viscosity                       | Not applicable                               |
| Solubility in water             | Insoluble                                    |
| Solubility in alcohol           | Insoluble                                    |
| Partition Coefficient           | Not available                                |
| Decomposition Temperature       | Not available                                |
| Autoignition Temperature        | ≥160°C                                       |
| Others                          | —  |

### 10. Stability and reactivity

|                                  |  |
|----------------------------------|--|
| Chemical Stability               | Stable under normal conditions of storage and handling.      |
| Hazardous Reactions              | No information available.                                    |
| Conditions to Avoid              | High temperature, sparks, flames and other ignition sources. |
| Incompatible Materials           | Strong oxidizing agents, strong acids and strong alkalis.    |
| Hazardous Decomposition Products | Oxides of silicon and carbon.                                |
| Hazardous Polymerization         | Will not occur.  |

### 11. Toxicological information

|                                    |   |
|------------------------------------|---|
| LD <sub>50</sub> /LC <sub>50</sub> | <b>Potassium chlorate</b> (CAS No. 3811-04-9)<br>Oral rat LD <sub>50</sub> : 1870 mg/kg; human (unknown route) LDLo: 429 mg/kg<br><b>Quartz powder</b> (CAS No. 7631-86-9)<br>Draize test, rabbit, eye: 25 mg/24H Mild<br><b>Rosin</b> (CAS No. 8050-09-7)<br>Inhalation, rat: LC <sub>50</sub> = 110 mg/m <sup>3</sup><br>Oral, mouse: LD <sub>50</sub> = 2.2 mg/kg<br>Oral, rat: LD <sub>50</sub> = 3.0 mg/kg<br><b>Boric acid</b> (CAS No.10043-35-3)<br>Oral, rat: LD <sub>50</sub> = 2.660 mg/kg |
|------------------------------------|---|



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### Antimony oxide (CAS No. 18282-10-5)

Oral, rat; LD<sub>50</sub> > 20.000 mg/kg

|                                   |   |
|-----------------------------------|---|
| Skin Corrosion/Irritation         | No information available.                     |
| Eye Damage/Eye Irritation         | No information available.                     |
| Respiratory or Skin Sensitisation | No information available.                     |
| Germ Cell Mutagenicity            | No information available.                     |
| Carcinogenicity                   | Not listed as a carcinogen by ACGIH, ARC, NTP |
| Toxic to Reproduction             | No information available.                     |
| STOST – Single Exposure           | May cause respiratory irritation.             |
| STOST – Repeated Exposure         | No information available.                     |
| Inhalation Hazard                 | No information available.                     |
| Epidemiology                      | No information available.                     |
| Teratogenicity                    | No information available.                     |
| Reproductive Effects              | No information available.                     |
| Neurotoxicity                     | No information available.                     |
| Others                            | –   |

## 12. Ecological information

|                               |                           |
|-------------------------------|---------------------------|
| Ecotoxicity                   | No information available. |
| Persistence and Degradability | No information available. |
| Bioaccumulation               | No information available. |
| Potential Mobility in Soil    | No information available. |
| Other Adverse Effects         | No information available. |

## 13. Disposal considerations

|                  |   |
|------------------|---|
| Waste Property   | No information available.   |
| Disposal         | Dispose of waste according to local regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers.   |
| Waste precaution | Contaminated packaging: Empty containers may contain hazardous residues. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. |
| RCRA P-Series    | None listed.  |
| RCRA U-Series    | None listed.  |





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### 14. Transport information

UN Classification 4.1 class 4.1 – Flammable Solid  
UN Number 1944  
UN Proper Shipping Name Matches, safety  
Packing Group III



Transport Attention –

Canada TDG 4.1 class 4.1 – Flammable Solid

DOT Proper Shipping Name Matches, safety  
Packing Group III  
UN Number 1944  
Hazard Class 4.1 class 4.1 – Flammable Solid

### 15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No 1272/2008/EC (CLP GHS).

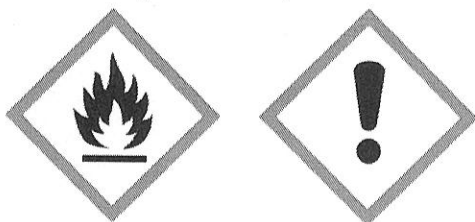
#### US FEDERAL TSCA

CAS No. 3811-04-9 is listed on the TSCA inventory.  
CAS No. 8050-09-7 is listed on the TSCA inventory.

#### European/International Regulations

##### European Labelling in Accordance with EC Directives

Hazard Symbols: F, Xn



#### Risk Phrases:

R8: Contact with combustible material may cause fire.  
R20/22: Harmful by inhalation and if swallowed.

#### Safety Phrases:

S17: Keep away from combustible materials.  
S45: In case of accident or if you feel unwell seek medical advice immediately.



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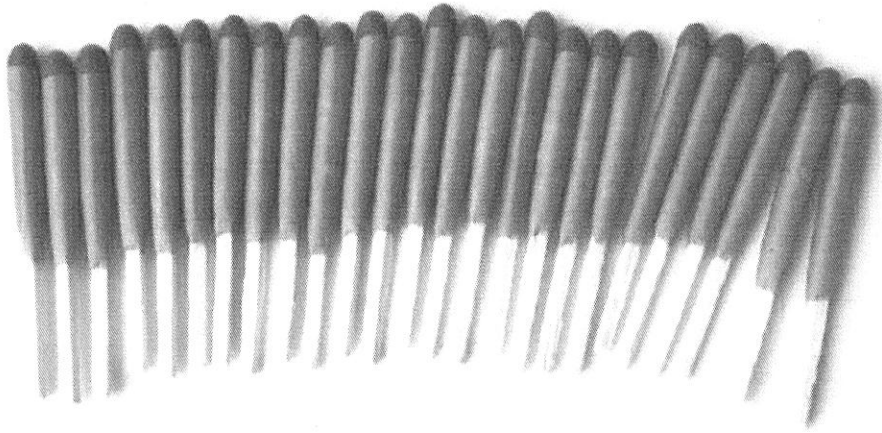
Version: 1

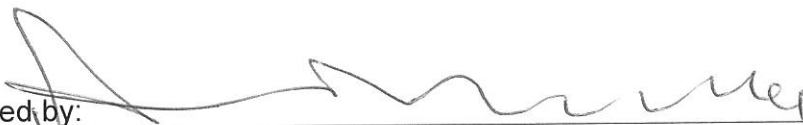
Review Date: 04-Sep-2019

### 16. Other Information

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. We make no representation as to completeness or accuracy. In no event shall we be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

#### Photo of product



Approved by:  Date: 23/9/19.  
Andrew R. Howell  
Managing Director  
BCB International Ltd