



Safety Data Sheet

Weatherproof Matches

Page: 1 of 10
Reference: SDSBCBAmend002
Version: 1
Review Date: 10-Sep-19

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

Product Identifier: Weatherproof Matches
Relevant Identified Uses Please consult supplier
Uses Advised Against Please consult supplier
Supplier BCB International Ltd
Howell House
Lamby Way Industrial Park
Cardiff
CF3 2EX
United Kingdom
Website Address www.bcb.in.com
Emergency Contact Number +44 (0)29 2043 3700

2. Hazards identification

GHS Hazard Class

Flammable Solids	Category 2
Acute Toxicity – Oral	Category 5
Sensitization – Skin	Category 1
Reproductive Toxicity	Category 1
Hazardous to the Aquatic Environment – Short-Term (Acute) Hazard	Category 2
Hazardous to the Aquatic Environment – Long-Term (Chronic) Hazard	Category 2

GHS Label Elements

Pictogram



Signal Word **Danger**

Hazard Statements

H228	Flammable solid
H303	May be harmful if swallowed
H317	May cause an allergic skin reaction
H360	May damage fertility or the unborn child
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects



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Precautionary Statements

Prevention	P201	Obtain special instructions before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P240	Ground and bond container and receiving equipment.
	P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P272	Contaminated work clothing should not be allowed out of the workplace.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	Response	P312
P391		Collect spillage.
P302+P352		IF ON SKIN: Wash with plenty of water.
P308+P313		If exposed or concerned: Get medical advice/ attention.
P333+P313		If skin irritation or rash occurs: Get medical advice/attention.
P362+P364		Take off contaminated clothing and wash it before reuse.
Storage	P405	Store locked up.
Disposal	P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Mixtures

Component	Concentration (weight percent, %)	CAS Number	EC Number
Potassium Chlorate	50	3811-04-9	223-289-7
Quartz Powder	20	14808-60-7	215-684-8
Bone Glue	12	9000-70-8	232-554-6
Zinc Oxide	5	1314-13-2	215-222-5
Diatomite	3	61790-53-2	212-293-4
Rosin	2	8050-09-7	232-475-7
Starch	2	9005-25-8	232-679-6
Phosphorus	1-5	7723-14-0	231-768-7
Aluminium Hydroxide	1	21645-51-2	244-492-7
Antimonic Oxide	0.01-0.1	1332-81-6	215-576-0



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4. First aid measures

Description of First Aid Measures

General Advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Skin Contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Centre immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of First Aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

Most Important Symptoms and Effects, both Acute and Delayed

- 1 Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Indication of Any Immediate Medical Attention and Special Treatment Needed

- 1 Treat symptomatically.
- 2 Symptoms may be delayed.

5. Firefighting measures

Extinguishing Media

Suitable Extinguishing Media Dry chemical, carbon dioxide, water spray, alcohol-resistant foam.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter or spread fire.

Specific Hazards Arising from the Substance or Mixture

- 1 Will form explosive mixtures with air.
- 2 Detonation may occur from heavy impact or excessive heating.
- 3 Flammable solid which burns and propagates flame easily, even when partly wetted with water.
- 4 May burn fiercely.
- 5 Any source of ignition, i.e. friction, heat, sparks or flame, may cause fire or explosion.
- 6 Containers may explode when heated.
- 7 Fire exposed containers may vent contents through pressure relief valves.
- 8 May expand or decompose explosively when heated or involved in fire.

Advice for Firefighters

- 1 As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- 2 Fight fire from a safe distance, with adequate cover.
- 3 Prevent fire extinguishing water from contaminating surface water or the ground water system.



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6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

- 1 Ensure adequate ventilation. Remove all sources of ignition.
- 2 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- 3 Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

Environmental Precautions

- 1 Prevent further leakage or spillage if safe to do so.
- 2 Discharge into the environment must be avoided.

Methods and Materials for Containment and Cleaning Up

- 1 Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
- 2 Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
- 3 Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Precautions for Handling

- 1 To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
- 2 Use explosion proof equipment.
- 3 Handling is performed in a well ventilated place.
- 4 Wear suitable protective equipment.
- 5 Avoid contact with skin and eyes.
- 6 Keep away from heat/sparks/open flames/hot surfaces.
- 7 Take precautionary measures against static discharges.

Precautions for Storage

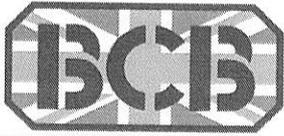
- 1 Keep containers tightly closed.
- 2 Keep containers in a dry, cool and well-ventilated place.
- 3 Keep away from heat/sparks/open flames/hot surfaces.
- 4 Store away from incompatible materials and foodstuff containers.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limit Values

Component	Country/ Region	Limit Value – Eight Hours mg/m ³	Limit Value – Short Term mg/m ³
Potassium Chlorate 3811-04-9	Latvia	5	–
	New Zealand	–	–
Rosin 8050-09-7	Latvia	4	–
	Canada - Québec	0.1	–
	Canada - Ontario	–	–



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Component	Country/ Region	Limit Value – Eight Hours mg/m ³	Limit Value – Short Term mg/m ³
Quartz Powder 14808-60-7	South Korea	0.05	–
	New Zealand	0.2	–
	Ireland	0.1	–
	Denmark	0.3	0.6
	Australia	0.1	–
Diatomite 61790-53-2	USA – OSHA	80	–
	South Korea	10	–
	Singapore	10	–
	New Zealand	10	–
	Germany (AGS)	4	–
	Denmark	1.5	3
	Canada – Ontario	10	–
	Canada – Ontario	3	–
	Belgium	10	–
	Belgium	3	–
	Australia	10	–
	Australia	10	–
	Zinc Oxide 1314-13-2	USA – OSHA	15
Spain		10	–
New Zealand		10	10
France		10	–
Canada – Ontario		2	10
Australia		10	–
Starch 9005-25-8	USA – OSHA	15	–
	South Korea	10	–
	New Zealand	10	–
	Ireland	10	–
	Belgium	10	–
	Australia	10	–
Aluminium Hydroxide 21645-51-2	Switzerland	3	–
	Poland	2.5 (fume)	–
	Latvia	6	–
	Germany (DFG)	4	–
Phosphorus 7723-14-0	USA – OSHA	–	0.1
	South Korea	0.1	–
	Ireland	0.1	0.3
	Germany (AGS)	0.01	0.02
	Denmark	0.1	0.2
	Australia	0.1	–

Biological Limit Values

No information available

Monitoring Methods

- 1 EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
- 2 GBZ/T 160.1 ~GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series Standard).



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Engineering Controls

- 1 Ensure adequate ventilation, especially in confined areas.
- 2 Ensure that eyewash stations and safety showers are close to the workstation location.
- 3 Use explosion-proof electrical/ventilating/lighting/equipment.
- 4 Set up emergency exit and necessary risk-elimination area.

Personal Protection Equipment

Eye Protection	Tightly fitting safety goggles (approved by EN 166 (EU) or NIOSH (US)).
Hand Protection	Wear protective gloves (such as butyl rubber), passing the tests according to EN F739 or AS/NZS 2161.1 standard.
Respiratory Protection	If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
Skin and Body Protection	Wear fire/flammable resistant/retardant clothing and antistatic boots.

9. Physical and chemical properties

Appearance	Yellow, green, red and rose red Weatherproof Matches
Odour	No information available
Odour Threshold	No information available
pH	No information available
Melting/Freezing Point (°C)	No information available
Initial Boiling Point and Boiling Range (°C)	No information available
Flash Point (°C) (Closed Cup)	Not applicable
Evaporation Rate	Not applicable
Flammability	No information available
Upper/Lower Explosive Limits [%v/v]	Upper limit: No information available Lower limit: No information available
Vapour Pressure (MPa)	Not applicable
Relative Vapour Density (air=1)	Not applicable
Relative Density (water=1)	No information available
Solubility	No information available
n-Octanol/Water Partition Coefficient	No information available
Auto-Ignition Temperature (°C)	No information available
Decomposition Temperature (°C)	No information available
Kinematic Viscosity (mm ² /s)	Not applicable
Particle Characteristics	No information available



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10. Stability and reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical Stability	Stable under proper operation and storage conditions.
Possibility of Hazardous Reactions	Mixture with metal powders may explode if heated, impact or friction. Reacts with active metals and poses an explosive potential or fire. Mixtures with metallic acetylene, when heated, cause a fire or incandescence.
Conditions to Avoid	Incompatible materials, heat, flame and spark.
Incompatible Materials	Metal powder, metal amino compounds, ammonia, ammonium salts, amine, amide, carboxylic acids, phenols, alcohols, carboxylic acid esters, nitriles, sulphuric acid, concentrated nitric acid and phosphoric acid. Active metal, alcohols, aldehydes, carbon disulphide, carbon, sulphur, phosphorus, boron, reducing agents, metallic acetylenes and metallic carbonates. Metal acetylide, halogen, interhalogen, halogen oxides, nitric acid, nitrous oxide, nitrates, nitrites, halogen oxyacid salts, chromates, permanganates, inorganic peroxides, metal oxides and peroxyformic acid.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Acute Toxicity

Component	CAS Number	LD ₅₀ (Oral)	LD50(Dermal)	LC50(Inhalation, 4h)
Zinc Oxide	1314-13-2	7950mg/kg (Mouse)	No Information available	No Information available
Potassium Chlorate	3811-04-9	1870mg/kg (Rat)	No Information available	No Information available
Phosphorus	7723-14-0	3.03mg/kg (Rat)	No Information available	No Information available

Skin Corrosion/Irritation	No information available
Serious Eye Damage/Irritation	No information available
Skin Sensitisation	May cause an allergic skin reaction (Category 1)
Respiratory Sensitisation	No information available
Germ Cell Mutagenicity	No information available



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Carcinogenicity

ID	CAS Number	Component	IARC	NTP
1	3811-04-9	Potassium Chlorate	Not Listed	Not Listed
2	9000-70-8	Bone Glue	Not Listed	Not Listed
3	8050-09-7	Rosin	Not Listed	Not Listed
4	14808-60-7	Quartz Powder	Category 1	Not Listed
5	61790-53-2	Diatomite	Not Listed	Not Listed
6	1314-13-2	Zinc Oxide	Not Listed	Not Listed
7	9005-25-8	Starch	Not Listed	Not Listed
8	21645-51-2	Aluminium Hydroxide	Not Listed	Not Listed
9	7723-14-0	Phosphorus	Not Listed	Not Listed
10	1332-81-6	Antimonic Oxide	Not Listed	Not Listed

Reproductive Toxicity May damage fertility or the unborn child(Category 1)

Reproductive Toxicity (Additional) No information available

STOT-Single Exposure No information available

STOT-Repeated Exposure No information available

Aspiration Hazard No information available

12. Ecological information

Acute Aquatic Toxicity

Component	CAS Number	Fish	Crustaceans	Algae
Zinc Oxide	1314-13-2	LC50: 1120mg/L (96h)	No information available	No information available
Phosphorus	7723-14-0	LC50: 0.006mg/L (96h)	EC50: 0.14mg/L (48h)	No information available

Others

Persistence and Degradability No information available

Bioaccumulative Potential No information available

Mobility in Soil No information available



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Results of PBT and vPvB Assessment

Potassium Chlorate does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Bone Glue does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Rosin does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Quartz Powder does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Diatomite does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Zinc Oxide does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Boric Acid does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Starch does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Aluminium Hydroxide does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Phosphorus does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
Antimonic Oxide does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

13. Disposal considerations

Waste Chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated Packaging Disposal Recommendations	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.

14. Transport information

Transporting Label



Marine Pollutant	Yes
UN Number	1944
UN Proper Shipping Name	MATCHES, SAFETY
Transport Hazard Class	4.1
Transport Subsidiary Hazard Class	None
Packing Group	III



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15. Regulatory information

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS	ENCS
Potassium Chlorate	✓	✓	✓	✓	✓	✓	x	✓	✓
Bone Glue	✓	✓	✓	✓	✓	✓	✓	✓	x
Rosin	✓	✓	✓	✓	✓	✓	x	✓	x
Quartz Powder	✓	✓	✓	✓	✓	✓	✓	✓	✓
Diatomite	x	✓	x	✓	✓	✓	✓	✓	x
Zinc Oxide	✓	✓	✓	✓	✓	✓	✓	✓	✓
Starch	✓	✓	✓	✓	✓	✓	✓	✓	✓
Aluminium Hydroxide	✓	✓	✓	✓	✓	✓	✓	✓	✓
Phosphorus	✓	✓	✓	✓	✓	✓	✓	✓	x
Antimonic Oxide	✓	✓	x	✓	x	✓	✓	x	✓

EINECS European Inventory of Existing Commercial Chemical Substances

TSCA United States Toxic Substances Control Act Inventory

DSL Canadian Domestic Substances List

IECSC China Inventory of Existing Chemical Substances

NZIoC New Zealand Inventory of Chemicals

PICCS Philippines Inventory of Chemicals and Chemical Substances

KECI Existing and Evaluated Chemical Substances

AICS Australia Inventory of Chemical Substances

ENCS Existing And New Chemical Substances

Note

✓ Indicates that the substance is included in the regulations

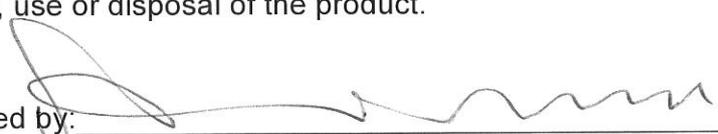
x Indicates there is no data or is not included in the regulations

16. Other Information

Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Approved by:


Andrew R. Howell
Managing Director
BCB International Ltd

Date:

23/9/19