

**1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER****PRODUCT IDENTIFIER**

Safety matches

**RECOMMENDED USE**

Ignition

Product Name Matches (Part #446)  
 Company Name: MEECO Mfg. Co., Inc.  
 Address: 19704 60 th Ave NE  
 Suite 102  
 Arlington, WA 98223  
 Tel: (206) 262-8340  
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 Email: info@meecomfg.com  
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**2. HAZARDS IDENTIFICATION****GHS CLASSIFICATION**

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 sensitization

Not classifiable.

Skin sensitization

Not classifiable.

Germ cell mutagenicity

Not classifiable.

Carcinogenic

Not classifiable.

Toxic to reproductive

Not classifiable.

Specific target organ systemic toxicity Single exposure

Not classifiable.

Specific target organ systemic toxicity Repeated exposure

Not classifiable.

Environment Hazard

Hazard to the aquatic environment-Chronic hazard

Category 2

Hazard to the aquatic environment-Acute hazard

Not classifiable.

**GHS LABEL ELEMENTS**

Symbol



<b>Signal</b>	<b>Danger</b>
<b>Hazard Statement</b>	Flammable solid Harmful if swallowed or if inhaled May be harmful in contact with skin. Causes mild skin irritation. Causes eye irritation Toxic to aquatic life.
<b>Precautionary Statement</b>	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Response	IF IN EYES: Rinse cautiously with water for several minutes. 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.
<b>Other Risk not Covered by GHS</b>	-
<b>Any National or Regional Information</b>	Classification according to EU Directives 67/548/EEC or 1999/45/EC F, N, Xn R8 R20/22 R48/20 R43 R51/53

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Single / Mixtures	Mixtures			
Chemical name(or common name)	Safety matches			
Synonyms	-			
Ingredients Name	CAS No.	Formula	Content (%)	EINECS No.
Potassium chlorate	3811-04-9	KClO <sub>3</sub>	50	223-289-7
Bone glue	9000-70-8	-	12	232-554-6
Rosin	8050-09-7	C <sub>20</sub> H <sub>30</sub> O <sub>2</sub>	2	232-475-7
Quartz powder	14808-60-7	SiO <sub>2</sub>	20	238-878-4
Celatom	61790-53-2	SiO <sub>2</sub>	3	212-293-4
Zinc oxide	1314-13-2	ZnO <sub>2</sub>	5	215-222-5
Boric Acid	10043-35-3	H <sub>3</sub> BO <sub>3</sub>	1	233-139-2
Starch	9005-25-8	(C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> ) <sub>n</sub>	2	232-679-6
Aluminum hydroxide	21645-51-2	AlH <sub>3</sub> O <sub>3</sub>	1	244-492-7
Red phosphorus	7723-14-0	P	1-5	231-768-7
Antimony oxide	18282-10-5	SnO <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 MEATUES**

<b>General Advice</b>	Consult a physician. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Move to fresh air immediately. Get medical aid if symptoms persist.
<b>Skin Contact</b>	Wash affected area with soap and water. If symptoms develop seek medical attention.
<b>Eye Contact</b>	In case of contact with eyes, rinse immediately with plenty of water. Get medical aid if symptoms persist.
<b>Ingestion</b>	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.
<b>Main Symptoms</b>	Not available.
<b>Protection of Emergency</b>	Not available.
<b>Medical Attention</b>	Not available.
<b>Notes to Physician</b>	Treat symptomatically.

**5 . FIRE FIGHTING MEATURES**

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

**6 . ACCIDENT RELEASE MEASURES**

<b>General Information</b>	Wear appropriate personal protective equipment and clothing to minimize exposure.
<b>Spills/Leaks:</b>	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 labeled container. Dispose of waste according to federal, Environmental Protection Authority and state 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. That is; always wash hands before eating, drinking, smoking or using the toilet.
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 vapors 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.

<b>INCOMPATIBILITIES</b>	Strong oxidizing agents, strong acids and strong alkalis.
<b>PRECAUTION</b>	Not available.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Engineering Measures</b>	Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapors or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required.
<b>Control Parameter</b>	Rosin (CAS# 8050-09-7): United Kingdom, WEL - TWA: 0.05 mg/m <sup>3</sup> TWA (fume) United Kingdom, WEL - STEL: 0.15 mg/m <sup>3</sup> STEL (fume)
<b>Individual Protection</b>	
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. Red match head, woody matchstick
Odor	Odorless
Ph	<4.7
Melting Point	Not applicable
Initial Boiling Point	Not applicable
Flash Point	Not applicable
Flammability	Flammable
Explosive Limits	Lower: Not available. Upper: Not available.
Vapor Pressure	Not applicable
Specific Gravity	2.477
Relative Vapor Density (air=1)	Not applicable
Evaporation Rate	Not applicable
Relative Density (water=1)	1.3
Viscosity	Not applicable
Solubility in	
water	Insoluble
alcohol	Insoluble
Partition Coefficient	Not available.

**1 1 . TOXICOLOGICAL INFORMATION**

<b>RTECS#:</b>	-
<b>LD<sub>50</sub>/LC<sub>50</sub>:</b>	<b>Potassium chlorate</b> (CAS# 3811-04-9) Oral rat LD <sub>50</sub> : 1870 mg/kg; Human (unknown route) LDlo: 429 mg/kg. <b>Quartz powder</b> (CAS# 7631-86-9) Draize test, rabbit, eye: 25 mg/24H Mild; <b>Rosin</b> (CAS# 8050-09-7) Inhalation, rat: LC <sub>50</sub> = 110 mg/m <sup>3</sup> ; Oral, mouse: LD <sub>50</sub> = 2.2 mg/kg; Oral, rat: LD <sub>50</sub> = 3.0 mg/kg; <b>Boric Acid</b> (CAS#10043-35-3) LD <sub>50</sub> Oral - rat - 2.660 mg/kg <b>Antimony oxide</b> (CAS# 18282-10-5) LD <sub>50</sub> Oral - rat - > 20.000 mg/kg
<b>Skin Corrosion/Irritation</b>	No information available.
<b>Eye Damage/Eye Irritation</b>	No information available.
<b>Respiratory or Skin Sensitization</b>	No information available.
<b>Germ Cell Mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Not listed as a carcinogen by ACGIH, IARC, NTP
<b>Toxic to Reproduction</b>	No information available.
<b>STOST-Single Exposure</b>	May cause respiratory irritation.
<b>STOST-Repeated Exposure</b>	No information available.
<b>Inhalation Hazard</b>	No information available.
<b>Epidemiology</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>Reproductive Effects:</b>	No information available.
<b>Neurotoxicity</b>	No information available.
<b>Others</b>	-

**1 2 . ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	No information available.
<b>Persistence and Degradability</b>	No information available.
<b>Bioaccumulation Potential</b>	No information available.
<b>Mobility in Soil</b>	No information available.
<b>Other Adverse Effects</b>	No information available.

**1 3 . DISPOSAL CONSIDERATION (INCLUDING CINTAINER)**

<b>Waste Property</b>	No information available.
<b>Disposal</b>	Dispose of waste according to relative regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers.
<b>Waste precaution</b>	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.	

**1 4 . TRANSPORT INFORMATION**

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



<b>Transport Attention</b>	-
<b>Canada TDG</b>	4.1 class 4.1 – Flammable Solid
<b>DOT</b>	
Proper Shipping Name	Matches, safety
Packing Group	III
UN Number	1944
Hazard Class	4.1 class 4.1 – Flammable Solid

**1 5 . REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**US FEDERAL****TSCA**

CAS# 3811-04-9 is listed on the TSCA inventory.

CAS# 8050-09-7 is listed on the TSCA inventory.

**European/International Regulations****European Labeling in Accordance with EC Directives**

**Hazard Symbols:** F, N, Xn



**Risk Phrases:**

R8: Contact with combustible material may cause fire.

R20/22: Harmful by inhalation and if swallowed.

R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R43: May cause sensitization by skin contact.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**

S17 Keep away from combustible materials

S22 Do not breathe dust

S36 Wear suitable protective clothing

S37 Wear suitable gloves

S45 In case of accident or if you feel unwell seeks medical advice immediately

S29 Do not empty into drains

S61 Avoid release to the environment. Refer to special instruction/ Material safety data sheets

**1 6 . OTHER INFORMATION**

Disclaimer: The information contained herein is accurate to the best of our knowledge. My Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.