

## **SAFETY DATA SHEET**

### **PRODUCT - WOODSTICK SAFETY MATCHES**

#### **1. Identification and Company**

Woodstick Safety Matches

Swedish Match Industries AB  
V. Drottningvägen 15  
P.O. Box 84  
SE-522 22 TIDAHOLM  
Sweden

In emergency telephone: +46 502 16500

#### **2. Composition and Ingredients**

Stick: Aspen or poplar stick impregnated with ammonium phosphate and paraffin wax.

Head: A mixture of potassium chlorate with animal glue (technical gelatin) together with inert materials to moderate combustion, and minor amounts of red amorphous phosphorus and colourants.

Box: The side panels are coated with a special composition containing amorphous phosphorus.

#### **3. Hazards Identification**

Safety matches pose few hazards in normal use. Safety matches will not ignite, in normal circumstances, unless they are rubbed on the specially prepared striking surface provided on the box. In exceptional circumstances, such as severe impact or heavy striking on a smooth, non thermally conducting surface, safety matches can ignite. Matches do not ignite when heated unless the temperature exceeds 180°C.

The main hazard associated with matches arises because they are readily combustible and misuse may result in burns or uncontrolled fires.

#### **4. First aid measures**

Unless large quantities of matches are ingested (>10 matches per kilogram of body weight) there is little risk to health following ingestion. If more than this quantity is ingested seek medical attention.

Burns resulting from mishandling should be treated as normal burns. Place injured part under running cold water for 10 minutes. Do not break blisters or remove loose skin. Do not apply ointments or lotions. Dress area with clean, non fluffy, sterile material. If in doubt seek medical attention.

#### **5. Firefighting measures**

Water is the most effective extinguishant for match fires. Match fires produce much smoke containing small quantities of acidic gases such as phosphorus oxides. In large conflagrations involving matches breathing apparatus should be used.

#### **6. Accidental release measures**

If significant quantities of matches are released by breakage of the packaging then remove all sources of ignition, salvage any undamaged product and wet the remaining product before clearing up.

### **7. Handling and storage**

In storage, matches give off no toxic or flammable gases. Matches do not spontaneously catch fire although fires can occur if the product is mishandled. Matches should be stored in a cool dry place away from potential sources of ignition, and other highly flammable materials.

They should not be stacked higher than 4.5 metres above the ground. Adequate space around the product should be left to minimise the chances of impact damage from, for example, manoeuvring fork lift trucks.

It should be noted that any ignition of matches in intact closed boxes, displays and cases invariably self extinguishes because there is insufficient oxygen in the closed packaging. Only when the case or packaging bursts open is there any danger of sustained combustion taking place.

### **8. Exposure controls/ personal protection.**

No special measures are required when handling matches.

### **9. Physical and chemical properties**

Appearance: Boxes containing wooden sticks carrying an ignition tip.

Odour: Low, woody smell.

Flammability: Matches are flammable and may ignite when temperature exceeds 180°C.

Solubility: Approximately 10 mg of each match is soluble in water.

### **10. Stability and reactivity**

Matches are perfectly stable under all normal ambient conditions and they have a long shelf life. If they become wet and subsequently dry out the burning characteristics of the product may be adversely affected.

### **11. Toxicological information**

Most of the constituents of matches are inert non hazardous materials. The hazardous materials present are potassium chlorate and red amorphous phosphorus.

The lowest lethal dose in humans for potassium chlorate is quoted as  $LDLo = 429 \text{ mg/kg}$  body weight (Registry of Toxic Effects of Chemical Substances, published by National Institute for Occupational Safety and Health, US). NB. Each match head contains approximately 10 mg of potassium chlorate.

Red amorphous phosphorus is widely regarded as being non toxic. Hoechst, a leading supplier of this material quote  $LD50 \text{ oral - rat} = 15000 \text{ mg/kg}$  body weight.

### **12. Ecological information**

Swedish Match safety matches contain no toxic heavy metals and they do not emit sulphur dioxide when burned. They have very limited impact on the environment being made from mostly natural raw materials. Potassium chlorate is a herbicide but on combustion this is converted into the ecologically harmless compound potassium chloride. Used matches and boxes biodegrade rapidly in the environment.

### **13. Disposal considerations**

Large quantities of matches can be safely disposed of to landfill at an approved site or by controlled combustion at an approved incinerator.

### **14. Transport information**

Matches represent a minimal hazard during transport. The UN number for safety matches is 1944 and the classification is 4.1 Flammable solid.

### **15. Regulatory information**

Matches are classified as articles and do not require labelling for supply. Articles are not required to have safety data sheets in accordance with the Directive 91/155/EEC and this sheet is provided as a convenience to our customers.