01. Identification of the substance/mixture and of the company

Product name: Toothbrush Style Brush (Brush fibers)

Code number(s): 200599

Purpose of product: To assist in cleaning of items in conjunction with a suitable cleaning solution.

Manufacturer/supplier: Healthmark Industries Co.

Address: 18600 Malyn Blvd. / Fraser, MI 48026

Telephone/Fax/Email: (800) 521-6224 / (586) 491-2113 / healthmark@hmark.com

Emergency telephone number: (800) 424-9300 (24 hour service)

02. Hazards identifications

Classification of the substance or mixture: Copper Alloy Products in the natural state do not present an inhalation, ingestion or contact hazard.

Pigment:

Adverse environmental and human health effects: Metal with high level of specified mass, can cause strokes if not handled properly.

03. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Description of the mixture</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>63.96</td>
</tr>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>0.25</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>0.50</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>0.194</td>
</tr>
<tr>
<td>Tin</td>
<td>7440-31-5</td>
<td>0.9</td>
</tr>
<tr>
<td>Zinc</td>
<td>7440-66-6</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Hazardous ingredients: N/A

General information:

Following inhalation: Move the person to fresh air and support breathing as required. Consult a physician if victim has continued.

Following skin contact: Remove clothing around affected area. Rinse away loose material and wash affected area with soap and water. IF there is a severe skin reaction or reddened or blistered skin, consult a physician.

Following eye contact: Lift eyelids and flush immediately with flooding amount of water for at least 15 minutes. Do not allow victim to rub his/her eyes or keep them shut. Consult a physician or ophthalmologist if all material cannot be removed or if there is continuous irritation.

Following ingestion: Get immediate medical attention. Do not induce vomiting unless directed by medical personnel.
Notes for the doctor:

04. Firefighting measures

Suitable extinguishing media: This material is noncombustible. Use extinguishing media appropriate to the surrounding fire.

Unsuitable extinguishing media:

Special hazards arising from the substance and combustion products:

Advice for firefighters: Copper Alloy products in the solid state present no fire or explosion hazard.

05. Accidental release measures

General information:

Environmental precautions:

Additional information:

06. Handling and storage

Precautions for safe handling: Welding; precautions should be taken for airborne contaminants that may originate from components of the welding rod.

Fire Preventions: N/A

Technical measures and storage conditions: Protect containers from physical damage.

07. Exposure controls/personal protection

Control parameters:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS#</th>
<th>ACGIH TLV TWA</th>
<th>OSHA PEL TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>0.2 mg/m³ (fumes) 1 mg/m³ (dusts and mists)</td>
<td>0.1 mg/m³ (fumes) 1 mg/m³ (dusts and mists)</td>
</tr>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>0.05 mg/m³</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>0.2 mg/m³</td>
<td>Ceiling- 5 mg/m³</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>1.5 mg/m³ (inhalable fraction)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Tin</td>
<td>7440-31-5</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Zinc</td>
<td>7440-66-6</td>
<td>None Established</td>
<td>None Established</td>
</tr>
</tbody>
</table>

Personal protective equipment:

Hand protection: Wear impervious (cut/resistant) gloves and other protective clothing. If generating a dust, wash thoroughly after handling, especially before eating, drinking, or smoking.

Respiratory protection: Respiratory protection not normally needed. If dusting occurs or fumes are generated above the PEL/TLV, use a NIOSH-approved half-face or full-face respirator equipped with High Efficiency Particulate (HEPA) filter cartridges.
Eye protection: Use safety glasses

Advice on general occupational hygiene: Do not eat, drink or smoke while using this product is dust form.

Environmental exposure controls: If this product is heated and fumes are generated, zinc oxide fumes could be formed. The ACGIH TLV and OSHA PEL for zinc oxide fume is 5 mg/m³.

Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise use general exhaust ventilation.

08. Physical and chemical properties

Appearance: Brass Alloy: Red/Gold Metallic
Bronze Alloy: Red Metallic
Nickel Silver Alloy: Silvery White Metallic

Physical state: Solid

Color:

Odor: None

Safety relevant basic data: N/A

Explosion hazard:

Density: Bulk Density: Brass Alloy: 8.69g/cc
Bronze Alloy: 8.85g/cc
Nickel Silver Alloy: 8.70g/cc
Specific Gravity: Brass Alloy: 8.69
Bronze Alloy: 8.85
Nickel Silver Alloy: 8.70

pH: N/A

Initial boiling point/range: ºC / ºF

Solubility:

Flash point: ºC / ºF N/A

Ignition temperature: ºC / ºF N/A

Melting point: Brass Alloy: L= 930-1065ºC /1706-1949ºF
S= 905-1050ºC/1661-1922ºF
Bronze Alloy: L=1020-1075ºC/1868-1967ºF
S=800-1050ºC/1616-1922ºF
Nickel Silver Alloy: L= 1021-1110ºC/1870-2030ºF
S= 980-1071ºC/1796-1960ºF

Conditions to avoid: N/A

Incompatible materials: N/A
09. Stability and reactivity

Conditions to avoid: Not affected by mechanical impact or shock or by electrical discharge. For nickel silver alloy, avoid contact with carbon monoxide, particularly at temperature between 50°C and 300°C, to prevent formation of nickel carbonyl which is toxic and a carcinogen.

Incompatible materials: Avoid Acetylene, chlorine

Hazardous decomposition products: When heated to decomposition, may produce metal oxides and fumes. Inhalation of high concentrations of metal fumes may cause a condition known as “metal fume fever” which is characterized by flu-like symptoms.

10. Toxicological information

Information on toxicological effects:
Sub chronic/Chronic Toxicity: Lead has caused blood, kidney and nervous system damage in laboratory animals.

Carcinogenicity: In laboratory animal studies, chronic exposure to high concentrations of nickel has caused an increase in lung and nasal tumors. The International Agency for Research on Cancer (IARC) has classified nickel as possible carcinogenic to humans, groups 2B. The International Agency for Research on Cancer (IARC) lists lead as possible carcinogenic to humans, group 2B.

Mutagenicity: This product is not known or reported to be mutagenic. Nickel and lead have been shown to be mutagenic in in vitro studies.

Reproductive, Teratogenicity, or Developmental Effects: Exposure of male rats to high concentrations of nickel caused testicular degeneration. However, symptoms of systemic toxicity, including severe weight loss were also observed at the same concentrations indicating that the testicular effects were secondary to the frank toxicity. Lead has been shown to affect fetal development including birth defects and reduce male reproductive function in laboratory animals.

Neurological Effects: Lead has caused peripheral and central nervous system damage and behavioral effects in laboratory animals. Chronic exposure to very high concentrations of manganese dust has caused nervous system effects including muscle weakness, tremors, and behavioral changes in humans.

Oral LD₅₀: Dust of Fume Believed to be moderately toxic, Copper: 3.5 mg/kg (mouse intraperitoneal), Manganese: 9 g/kg (rat), Nickel: >5 g/kg (rat).

Irritation: N/A

Sensitization: Dust or Fume: Dermal LD₅₀ Believed to be >2 g/kg, Copper: 375 mg/kg (rabbit, subcutaneous), Nickel: >7.5 g/kg (rabbit subcutaneous).

Inhalation: Dust or Fume: Inhalation LD₅₀ Believed to be slightly moderately toxic, Nickel: >12 g/kg (rat, intratracheal).

Irritation: Dust or Fume: Believed to be an eye and respiratory irritant, Copper: Respiratory irritant, Lead: Not irritation, Manganese: Mild skin and eye irritant, Nickel: Respiratory irritant, skin sensitizer, Zinc: Eye irritant.

Practical experiences: N/A

Ingredient: N/A

11. Ecological information
Terrestrial toxicity: Lead: LC50 (48hrs.) to bluegill (lepisomis macroshirus) is reported to be 2.5 mg/l. Lead is toxic to waterfowl.

Aquatic toxicity: Nickel: 96 hr. LC50, rainbow trout= 31.7 mg/l; 96 hr. LC50, fathead minnow= 3.1 mg/l; 72 hr. ECsOC, freshwater algae (4 species) = 0.1 mg/l; 96 hr. LC50, Daphnia = 0.51 mg/l.

Brass Alloy/Phosphor Bronze Alloy/Nickel Silver Alloy: Concentrations of 0.015 to 3.0 mg/l have been reported as toxic, particularly in soft water to many kinds of fish, crustaceans, mollusks, insects and plankton.

Mobility: Dissolved lead may migrate through soil.

Persistence and degradability: Not biodegradable. Lead may persist and accumulated in the environment.

Bio accumulative potential: N/A

Results of PBT and vPvB assessment: N/A

Other adverse effects: N/A

12. Disposal considerations

Product: Please refer to applicable local, state and federal regulations. Conditions of use may cause this material to become a solid “Hazardous Waste” as defined by stated or federal laws. Solid waste “leachate” testing may indicate the need for properly permitted through pre-treatment or direct discharge NPDES requirements. Appropriate analyses should be conducted to ensure compliance with existing waste water permits.

Contaminated packaging: N/A

Uncontaminated packaging: N/A

13. Transport information

UN-No: N/A

Proper shipping name: N/A

Classification code: N/A

Packing group: N/A

Hazard label: N/A

14. Regulatory information

Material safety evaluation: European Regulations- Because this material contains lead at >0.2%, and nickel at >0.1%, this material is classified as XN Harmful. However, this material in its massive solid form is not required to be labeled under EC regulations.

Regulation on combustible liquids:

Class according 2009/104/EG (BetrSichV): N/A

Water hazard class: N/A
Storage according TRGS 510 (Storage of hazardous substances in non-stationary containers): N/A

15. Other information

Recommended application: Store in cool place. Do not store gloves above 104°F (40°C). Shield from direct sun exposure or fluorescent lighting to prevent discoloration. Do not store in areas that are damp or in high humidity.

National Fire Protection Association (NFPA) ratings: This information is intended solely for the use of individuals trained in the NFPA systems.

Health: 2  Flammability: 0  Reactivity: 0

Relevant R-, H-, and EUH-phrases: N/A

The information supplied in this Safety Data Sheet is designed only as a guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and beliefs at the date of the publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other processes.

2020-01-29 slatta