PRODUCT NAME:  PBC 7042
MSDS DATE : 04/05/89
MSDS NUMBER : PBC 7042

Product Identification

CHEMICAL NAME / SYNONYM / TRADE NAME:  Brushing Bright Palladium
Proprietary Mixture
CHEMICAL FAMILY :
Mixed organometallic complexes, resins, aromatic solvents
CHEMICAL FORMULA:  PBC 7042
CAS NUMBER : not applicable
DOT HAZARD CLASS: not known
UN/NA NUMBER : not known / not known

Hazardous Ingredients

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>TLV</th>
<th>STEL</th>
<th>PEL</th>
<th>%</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>100ppm</td>
<td>150ppm</td>
<td>100ppm</td>
<td>5-10%</td>
<td>1330-20-7</td>
</tr>
<tr>
<td>Perchloroethylene</td>
<td>50ppm</td>
<td>200ppm</td>
<td></td>
<td>30-35%</td>
<td>127-18-4</td>
</tr>
<tr>
<td>Turpentine</td>
<td>100ppm</td>
<td>150ppm</td>
<td>100ppm</td>
<td>2-5%</td>
<td>8000-64-2</td>
</tr>
<tr>
<td>Biphenyl</td>
<td>0.2ppm</td>
<td>0.6ppm</td>
<td>0.2ppm</td>
<td>1-2%</td>
<td>92-52-4</td>
</tr>
</tbody>
</table>

* Denotes SARA Section 313 Title III Toxic Chemicals

Physical Data

| BOILING POINT       | : not known |
| SPECIFIC GRAVITY (H2O=1) | : <1 |
| VAPOR PRESSURE(mm Hg.) | : not known |
| PERCENT VOLATILE    | : 70.5 |
| VAPOR DENSITY(AIR=1) | : >1 |
| EVAPORATION RATE     | : not known |
| SOLUBILITY IN WATER  | : immiscible |
| APPEARANCE AND ODOR  | : Dark brown liquid, solvent odor |

Fire and Explosion Hazard Data

| FLASH POINT (METHOD USED) | : 132 F (Setaflash Closed Cup) |

DISCLAIMER:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgments of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.
Johnson Matthey Inc.
MSDS FOR PRODUCT: PBC 7042

Fire and Explosion Hazard Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTOIGNITION TEMP.</td>
<td>not known</td>
</tr>
<tr>
<td>FLAMMABLE LIMITS</td>
<td></td>
</tr>
<tr>
<td>LEL</td>
<td>not known</td>
</tr>
<tr>
<td>UEL</td>
<td>not known</td>
</tr>
<tr>
<td>EXTINGUISHING MEDIA</td>
<td>CO₂ or dry chemical</td>
</tr>
<tr>
<td>SPECIAL FIRE FIGHTING PROCEDURES:</td>
<td></td>
</tr>
<tr>
<td>Fire fighters should wear NIOSH/MSHA approved pressure demand self contained breathing apparatus.</td>
<td></td>
</tr>
<tr>
<td>UNUSUAL FIRE AND EXPLOSION HAZARDS:</td>
<td>none known</td>
</tr>
</tbody>
</table>

Health Hazard Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>THRESHOLD LIMIT VALUE</td>
<td>None established for mixture.</td>
</tr>
<tr>
<td>EFFECTS OF OVEREXPOSURE</td>
<td></td>
</tr>
<tr>
<td>Solvents can cause defatting of the skin as well as contact dermatitis in susceptible individuals. Vapors can irritate eyes, nose, and throat. Solvents can act as central nervous system depressants, exhibiting narcotic and anesthetic effects. Overexposure can cause headache, nausea, vomiting, drowsiness, diarrhea, liver and kidney damage.</td>
<td></td>
</tr>
</tbody>
</table>

NIOSH had determined that Perchloroethylene is a suspected cancer causing compound. It is also listed by IARC as a potential carcinogen.

Additionally, Nitrotoluene forms methemoglobin, (thereby reducing the oxygen carrying capacity of the blood) causing breathing difficulty, rapid heartbeat, lack of muscle coordination, and is believed to cause anemia. It may be absorbed through the skin.

All other product constituents are not listed on the NTP, IARC or OSHA lists as potential carcinogens.

EMERGENCY AND FIRST AID PROCEDURES:

SKIN: In case of contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash or clean before reuse.

EYE CONTACT: Rinse for 15 minutes and contact a physician immediately.

INHALATION: Remove from exposure to fresh air. Give artificial respiration if not breathing. If breathing is difficult, give oxygen. Contact a physician immediately.

INGESTION: Contact a physician immediately.

Reactivity Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>STABILITY</td>
<td>Stable</td>
</tr>
</tbody>
</table>

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Reactivity Data

CONDITIONS TO AVOID
Avoid heating substance where it may be inhaled, and avoid open flame.

INCOMPATIBILITY
Oxidizers such as chlorates, perchlorates, permanganates, and nitrates.

HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO2, HCl, Oxides of sulfur, carboneaceous fumes.

HAZARDOUS POLYMERIZATION
Will Not Occur

CONDITIONS TO AVOID
none known

Precautions for Safe Handling and Use

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Prevent wastage. Promptly absorb spill. Conserve and accumulate material and all mops, wipes, sand or vermiculite used to clean up a spill. Remove sources of ignition. Cover drains to prevent entry into waterways.

Wear personal protective equipment (clothing and gloves) when handling spilled materials. (See Section on Special Protection Information, below.)

WASTE DISPOSAL METHOD
Return accumulated residues, wipes, mops, sand and vermiculite to refinery for metals recovery. Store material in appropriate containers. Follow local, state and federal regulations for packaging, labeling, manifesting, transportation and disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Keep away from heat, open flame, and sources of ignition. Store as flammable liquid.

Store in a cool dry place away from incompatible materials identified in the Reactivity Section.

OTHER PRECAUTIONS
Follow good industrial hygiene and housekeeping practices. Do not eat, drink, or smoke while working with this material. Wash hands before eating, drinking, smoking, or applying cosmetics, and at the end of the work shift. Avoid contact with eyes, skin, or clothing. Do not ingest. Avoid prolonged breathing of dust. Keep container closed when not in use. Use with adequate ventilation.
Control Measures

RESPIRATORY PROTECTION (SPECIFY TYPE):
If there is a possibility that the TLVs or PELs may be exceeded, a NIOSH/MSHA approved respirator with organic vapor/dust-mist-fume filters represents the minimum level of respiratory protection.
To insure proper respirator selection and use, refer to the requirements of 29 CFR 1910.134 and the latest addition of ANSI Z 88.2.

VENTILATION:

LOCAL EXHAUST:
Fume hood at point of generation with sufficient exhaust to remove material from breathing zone.

MECHANICAL (GENERAL):
With sufficient ventilation to remove material from breathing zone.

SPECIAL:
none

OTHER:
none

PROTECTIVE GLOVES:
Rubber or solvent impermeable substitute

EYE PROTECTION:
Chemical safety goggles.

OTHER PROTECTIVE EQUIPMENT:
Wear disposable protective clothing to facilitate recovery of any materials spilled.

References

REFERENCE:
