MATERIAL SAFETY DATA SHEET

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act and shall not be used for any other purpose. IPS Corporation urges the customers receiving this Material Safety Data Sheet to study it carefully to become aware of the hazards, if any, of the product involved. In the interest of safety, you should notify your employees, agents and contractors of the information on this sheet.

SECTION I

MANUFACTURER'S NAME
IPS Corporation

ADDRESS
17109 S. Main St., P.O. Box 379, Gardena, CA. 90248 U.S.A.

TRADE NAME:
SPEARS FS-5 Cement for CPVC Plastic Pipe

SECTION II - HAZARDOUS INGREDIENTS

None of the ingredients below are listed as carcinogens by NTP, OSHA or ACGIH.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>APPROX % BY WEIGHT</th>
<th>ACGIH TLV</th>
<th>ACGIH STEL</th>
<th>OSHA TLV</th>
<th>OSHA STEL</th>
<th>LC50</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9</td>
<td>39 - 55</td>
<td>50 PPM Skin</td>
<td>100 PPM</td>
<td>200 PPM</td>
<td>250 PPM Oral: 2880 mg/kg (rat) Inhalation 3 hrs. 21,000 PPM (rat)</td>
<td>N. AP.</td>
<td>N. AP.</td>
</tr>
<tr>
<td>78-93-3</td>
<td>1 - 6</td>
<td>200 PPM</td>
<td>300 PPM</td>
<td>300 PPM Oral: 1.58 g/kg (rat) Inhalation 4 hrs.</td>
<td>N. AP.</td>
<td>N. AP.</td>
<td></td>
</tr>
<tr>
<td>108-64-1</td>
<td>2 - 18</td>
<td>20 PPM Skin</td>
<td>60 PPM</td>
<td>Oral: 1900 mg/kg (rat) Inhalation LC50</td>
<td>N. AP.</td>
<td>N. AP.</td>
<td></td>
</tr>
<tr>
<td>67-64-1</td>
<td>7 - 23</td>
<td>500 PPM</td>
<td>750 PPM</td>
<td>1000 PPM Oral: 6.76 g/kg (rat) Inhalation LC50</td>
<td>N. AP.</td>
<td>N. AP.</td>
<td></td>
</tr>
</tbody>
</table>

All of the constituents of IPS adhesive products are listed on the TSCA inventory of chemical substances maintained by the US EPA and/or the Canadian Domestic Substance List (DSL), or are exempt from such listings.

# Invista and BASF's Acceptable Exposure Limit (AEL) guidelines for 8 hour and 12 hour TWA. Invista/BASF recommended STEL for 15 minute TWA: 75 PPM.

SECTION III - PHYSICAL DATA

<table>
<thead>
<tr>
<th>APPEARANCE</th>
<th>ODOR</th>
<th>BOILING POINT (°C / °F)</th>
<th>FREEZING POINT (°C / °F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red, medium syrupy liquid</td>
<td>Ethereal (Threshold = 2-50 PPM)</td>
<td>133°F (57°C)</td>
<td>-139°F (-95°C)</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY @ 73°F ± 3.6°F (23°C ± 2°C) Typical 1.0 ± 0.040</td>
<td>VAPOR PRESSURE (mm Hg) 190 mm Hg based on first boiling component, Acetone @ 68°F (20°C)</td>
<td>Based on Acetone</td>
<td></td>
</tr>
<tr>
<td>VAPOR DENSITY (Air = 1) 2.49</td>
<td>EVAPORATION RATE (BUAC = 1) &gt; 1.0</td>
<td>SOLUBILITY IN WATER Solvent portion completely soluble in water. Resin portion separates out.</td>
<td></td>
</tr>
</tbody>
</table>

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

<table>
<thead>
<tr>
<th>FLASH POINT</th>
<th>AUTO IGNITION TEMP.</th>
<th>FLAMMABLE LIMITS (PERCENT BY VOLUME)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-6°F (-21°C) T.C.C. Based on Acetone 609.8°F (321°C), THF</td>
<td></td>
<td>LEL 2.0</td>
</tr>
<tr>
<td>FIRE EXTINGUISHING MEDIA</td>
<td></td>
<td>UEL 11.8</td>
</tr>
<tr>
<td>Ansul “Purple K” potassium bicarbonate dry chemical, carbon dioxide, National Aer-O-Foam universal alcohol resistant foam, water spray.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECIAL FIRE FIGHTING PROCEDURES
Evacuate enclosed areas. Stay upwind. Close quarters or confined spaces require self-contained breathing apparatus, positive pressure hose masks or airline masks. Use water spray to cool containers, to flush spills from source of ignition and to disperse vapors.

UNUSUAL FIRE AND EXPLOSION HAZARDS
SENSITIVITY TO MECHANICAL IMPACT: N. AP
SENSITIVITY TO STATIC DISCHARGE: 0.25 Millijoules

Fire hazard because of low flash point and high volatility. Vapors are heavier than air and may travel to source(s) of ignition at or near ground or lower level(s) and flash back.
SECTION V - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY:
- Inhalation: X
- Skin Contact: X
- Eye Contact: 
- Ingestion: 

EFFECT OF OVEREXPOSURE

ACUTE:
- Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages. Dermatitis may occur with prolonged contact.
- Skin Contact: Skin irritant. Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
- Skin Absorption: Prolonged or widespread exposure may result in the absorption of harmful amounts of material.
- Eye Contact: Overexposure may result in severe eye injury with conjunctival inflammation on contact with the liquid. Vapors slightly uncomfortable. Elevation of SGPT suggests a disturbance in liver function. The NOEL was reported to be 200 ppm.
- Ingestion: Moderately toxic. May cause nausea, vomiting, diarrhea. May cause mental sluggishness. Symptoms of respiratory tract irritation and damage to respiratory epithelium were reported in rats exposed to 5000 ppm TFH for 90 days.

REPRODUCTIVE EFFECTS
- TERATOGENICITY: N. AP.
- MUTAGENICITY: N. AP.
- EMBRYOTOXICITY: N. AP.
- SENSITIZATION TO PRODUCT: N. AP.
- SYNERGISTIC PRODUCTS: N. AV.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing diseases of the eyes, skin or respiratory system may have increased susceptibility to the toxicity of excessive exposures.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: If overcome by vapors, remove to fresh air and if breathing stopped, give artificial respiration. If breathing is difficult, give oxygen. Call physician.

Eye Contact: Flush eyes with plenty of water for 15 minutes and call a physician.

Skin Contact: Remove contaminated clothing and shoes. Wash skin with plenty of soap and water for at least 15 minutes. If irritation develops, get medical attention.

Ingestion: Give 1 or 2 glasses of water or milk. Do not induce vomiting. Call physician or poison control center immediately.

SECTION VI - REACTIVITY

STABILITY: UNSTABLE

CONDITIONS TO AVOID: Keep away from heat, sparks, open flame and other sources of ignition.

INCOMPATIBILITY: Caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.

Hazardous Decomposition Products:
When forced to burn, this product gives out carbon monoxide, carbon dioxide, hydrogen chloride and smoke.

Hazardous Polymerization:
WILL NOT OCCUR

CONDITIONS TO AVOID: Keep away from heat, sparks, open flame and other sources of ignition.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Eliminate all ignition sources. Avoid breathing of vapors. Keep liquid out of eyes. Flush with large amount of water. Contain liquid with sand or earth. Absorb with sand or nonflammable absorbent material and transfer into steel drums for recovery or disposal. Prevent liquid from entering drains.

WASTE DISPOSAL METHOD:
Follow local, state and federal regulations. Consult disposal expert. Can be disposed of by incineration. Excessive quantities should not be permitted to enter drains. Empty containers should be air dried before disposing. Hazardous Waste Code: 214.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type):
Atmospheric levels should be maintained below established exposure limits contained in Section II. If airborne concentrations exceed those limits, use of a NIOSH approved organic vapor cartridge respirator with full face-piece is recommended. The effectiveness of an air purifying respirator is limited. Use it only for a single short-term exposure. For emergency and other conditions where short-term exposure guidelines may be exceeded, use an approved positive pressure self-contained breathing apparatus.

VENTILATION:
Use only with adequate ventilation. Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits set forth in Section II. Use only explosion proof ventilation equipment.

PROTECTIVE GLOVES:
PVA coated rubber gloves for frequent dipping/immersion. Use of latex/nitrile surgical gloves or solvent resistant barrier cream should provide adequate protection when normal solvent-cement welding practices and procedures are used for making plastic welded pipe joints.

EYE PROTECTION:
Splashproof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as appropriate for exposure.

OTHER PROTECTIVE EQUIPMENT AND HYGIENIC PRACTICES:
Impervious apron and a source of running water to flush or wash the eyes and skin in case of contact.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Store in the shade between 40°F - 90°F (5°C - 32.5°C). Keep away from heat, sparks, open flame and other sources of ignition. Avoid prolonged breathing of vapor. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Train employees on all special handling procedures before they work with this product.

OTHER PRECAUTIONS:
Follow all precautionary information given on container label, product bulletins and our solvent cementing literature. All material handling equipment should be electrically grounded.

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.