SECTION I – MATERIAL IDENTIFICATION AND USE

S-700 Thin Spread Floor Tile Adhesive

HMIS Hazard Index

- 4 Severe Hazard  HEALTH………………………1*
- 3 Serious Hazard  FLAMMABILITY……………...1
- 2 Moderate Hazard REACTIVITY………………….0
- 1 Slight Hazard PERSONAL PROTECTION...B
- 0 Minimal Hazard

WHMIS Classification:

D2A – Poisonous and Infectious material with chronic toxic effects
D2B – Poisonous and Infectious material with chronic toxic effects

* Refer to 'Effects of Chronic Exposure to Material' section.

CHEMICAL NAME | CHEMICAL FAMILY | CHEMICAL FORMULA
--- | --- | ---
Not Applicable | Water-based, asphalt-rubber emulsion. | Not Applicable

TRADE NAME AND SYNONYMS

S-700

MOLECULAR WEIGHT | MATERIAL USE
--- | ---
Not Applicable | Floor tile adhesive.

SECTION II – HAZARDOUS INGREDIENTS OF MATERIAL

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENTS</th>
<th>%</th>
<th>C.A.S. NUMBERS</th>
<th>LD50 (SPECIES &amp; ROUTE)</th>
<th>LC50 (SPECIES &amp; ROUTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>1 – 5</td>
<td>57-13-6</td>
<td>(orl-rat) 8471mg/kg</td>
<td>Not Available</td>
</tr>
<tr>
<td>Rosin</td>
<td>0.5 – 1.5</td>
<td>8050-09-7</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Asphalt</td>
<td>30 – 60</td>
<td>8052-42-4</td>
<td>(orl-rat) &gt;5g/kg</td>
<td>Not Available</td>
</tr>
<tr>
<td>Petroleum hydrocarbon</td>
<td>1 – 5</td>
<td>64742-52-5</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Latex polymer emulsion, ground clay, water, etc. *</td>
<td>30 – 60</td>
<td>Not Av.</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

* The resins and polymers contained in this product are non-toxic. When used at room temperature, no incidence of adverse health effects resulting from inhalation of residual unpolymerized monomer vapors has been reported. Other ingredients contained in this product, considered to have certain toxicological properties, are below the minimum ingredient disclosure requirements of the CPR, and are therefore not indicated. The manufacturer, or supplier, of this product is not aware of any toxic synergisms between hazardous and non-hazardous ingredients (“Toxic” and "Non-Toxic" as defined under CPR).

SECTION III – PHYSICAL DATA FOR MATERIAL

<table>
<thead>
<tr>
<th>PHYSICAL STATE</th>
<th>ODOR AND APPEARANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paste</td>
<td>Thin black paste with asphalt odor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ODOR THRESHOLD (PPM)</th>
<th>SPECIFIC GRAVITY (H2O=1): 1.078</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVAPORATION RATE</th>
<th>BOILING POINT 100°C (Water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slower than ether</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%VOLATILE (BY WEIGHT) (30 min @ 275°F): 25-30%</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.6 - 11.3</td>
<td></td>
</tr>
</tbody>
</table>
Armstrong S-700 Thin Spread Floor Tile Adhesive

SECTION IV - FIRE AND EXPLOSION HAZARD OF MATERIAL

FLAMMABILITY
SLIGHT HAZARD. Material must be preheated under all ambient temperature conditions, before ignition and combustion can occur. Material can splatter above 100°C. Dry product can burn.

MEANS OF EXTINCTION
Carbon dioxide, dry chemical, Halon, water spray.

SPECIAL PROCEDURES
Supplier of Petroleum asphalt warns that it is possible for the toxic gas hydrogen sulphide (H₂S) to build up in tanks or other confined spaces that contain asphalt. The adhesive manufacturer, based on its knowledge gained through experience with this product, believes it unlikely that extremely low level concentrations of H₂S will reach a level where precautions should be observed. However, no formal tests have been conducted to either confirm or disprove the presence of H₂S in this adhesive, wet or dry, at elevated temperatures. Hydrogen sulfide H₂S is a colorless, toxic and extremely flammable gas with an odor, at low concentrations, characteristic of rotten eggs and, at high concentrations, a sweetish odor. Odor cannot be relied upon as a means of detection because the sense of smell rapidly becomes insensitive to H₂S. Protect fire fighters from toxic products of combustion by having them wear self-contained breathing apparatus. Closed containers in a fire may rupture due to pressure build-up; use water to cool containers. Vapor may form an explosive mixture with air in closed containers and storage vessels.

FLASHPOINT AND METHOD
218°C Cleveland Open Cup (Asphalt) 7.0% (Asphalt) 0.9% (Asphalt)

AUTOIGNITION TEMPERATURE
485°C (Asphalt)

HAZARDOUS COMBUSTION PRODUCTS
Oxides of carbon, nitrogen, and sulphur.

SENSITIVITY TO MECHANICAL IMPACT
Not Available

SENSITIVITY TO STATIC DISCHARGE
Not Available

SECTION V - REACTIVITY DATA

CHEMICAL STABILITY
Stable under ambient temperature and pressure.

INCOMPATIBILITY TO OTHER SUBSTANCES
Strong oxidizing agents, acids, alkalies.

REACTIVITY AND UNDER WHAT CONDITIONS
Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS
Fumes, smoke, carbon monoxide, carbon dioxide, hydrogen sulphide, sulphur oxides and other toxic vapors and gases that are common to thermal degradation of organic compounds. High temperature may produce monomers that may be hazardous to health.

SECTION VI - TOXICOLOGICAL PROPERTIES OF MATERIAL

ROUTE OF ENTRY
Inhalation acute, skin contact, eye contact, ingestion.

EFFECTS OF ACUTE EXPOSURE TO MATERIAL
Inhalation: Under normal conditions of use at ambient conditions, this product may cause irritation to upper respiratory tract. Overexposure to vapors may possibly affect medical conditions generally aggravated by solvents, including preexisting upper respiratory and lung disease such as, but not limited to, bronchitis, emphysema, and asthma. Human systemic effects by inhalation may include difficulty in breathing, coughing, CNS effects such as headache, dizziness, drowsiness, and nausea.

Skin and eyes: Excessive skin contact may cause drying and cracking of the skin which could result in dermatitis. Contact with eyes can cause eye irritation, redness, tearing, and blurred vision.

Ingestion: Do not take internally. Can cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL
Prolonged or repeated skin contact may cause irritation and inflammation. Prolonged or repeated exposure to vapours may cause irritation to upper respiratory tract.
# Armstrong S-700 Thin Spread Floor Tile Adhesive

<table>
<thead>
<tr>
<th>MATERIAL NAME/IDENTIFIER</th>
<th>Armstrong S-700 Thin Spread Floor Tile Adhesive</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 OF MATERIAL (SPECIES &amp; ROUTE)</td>
<td>Not Available</td>
</tr>
<tr>
<td>LC50 OF MATERIAL (SPECIES &amp; ROUTE)</td>
<td>Not Available</td>
</tr>
<tr>
<td>EXPOSURE (LIMITS) (ACGIH - TLV-TWA)</td>
<td>Asphalt = 5mg/m³ for oil mist, H₂S = 14mg/m³</td>
</tr>
<tr>
<td>IRRITANCY OF MATERIAL</td>
<td>Product is a moderate irritant to respiratory tract, skin and eyes.</td>
</tr>
<tr>
<td>SENSITIZATION OF MATERIAL</td>
<td>Product is a skin and respiratory tract sensitizer.</td>
</tr>
<tr>
<td>SYNERGISTIC MATERIALS</td>
<td>Not Available</td>
</tr>
<tr>
<td>CARCINOGENICITY, REPRODUCTIVE EFFECTS, TERATOGENICITY, MUTAGENICITY</td>
<td>Carcinogenicity: Asphalt may contain carcinogenic components. IARC Cancer Review reports inadequate human evidence to confirm this. Reproductive toxicity, teratogenicity, mutagenicity: Not Available</td>
</tr>
</tbody>
</table>

## SECTION VII - PREVENTIVE MEASURES

### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory Protection:** Avoid prolonged breathing of vapor. Normal ambient air circulation or ventilation is usually adequate and respiratory protective equipment should not be required. If adequate ventilation is not afforded, wear NIOSH/MSHA approved respiratory equipment for organic vapors.

**Skin and Eye Protection:** Avoid contact with eyes and prolonged contact with skin. During the handling of this material, impervious gloves and spectacle-type safety glasses are recommended to prevent contact with this product.

### ENGINEERING CONTROLS (E.G. VENTILATION, ENCLOSED PROCESS)

Use natural cross-ventilation, local (mechanical) pick-up, and/or general area (mechanical) ventilation to prevent an accumulation of vapors. The ventilation should be sufficient to keep vapor concentration below the TLV.

### LEAK AND SPILL PROCEDURE

Remove all sources of ignition. Ventilate area of spill or leak. Extinguish open flames or heat-producing equipment. Personnel involved in clean-up should wear personal protective equipment to prevent skin, eye and respiratory exposure. Wear boots to prevent contact with shoes. For exposures above TLV, wear NIOSH/MSHA approved respiratory equipment. Contain spill, preventing it from entering sewer lines or waterways. Use inert absorbent to assist with the pick-up of material. Scrape up adhesive and place in containers. Dispose of as hazardous waste. Residual of product can be cleaned up with warm soapy water.

### WASTE DISPOSAL

Use only approved disposal methods in accordance with all federal, provincial, and local waste disposal regulations to dispose of container and adhesive residue. Consult with local municipal officials, or provincial Ministry of the Environment office nearest to your location, for approved disposal methods.

### HANDLING PROCEDURES AND EQUIPMENT

Avoid eye contact, prolonged or repeated skin contact, and breathing of vapors. Use with adequate ventilation. Use precautions that are common with the safe handling of combustible liquids. Avoid heat, sparks, and flame. Prohibit smoking and eliminate all other sources of ignition. Close container after use. Good hygienic practices should be observed. Wash thoroughly with soap and water before eating, drinking, smoking, or using toilet facilities. Launder contaminated clothing before reuse. Do not take internally. Use only as directed on label. Keep out of the reach of children.

### STORAGE REQUIREMENTS

Store in area away from incompatibles. Recommended storage temperature is above 2°C and below 32°C. Do not allow to freeze.

### SPECIAL SHIPPING INFORMATION

Ensure that all containers have appropriate lids and are securely closed. Transportation of Dangerous Goods (TDG) Act classification: Not Regulated
SECTION VIII - FIRST AID MEASURES

Inhalation: In case of excessive inhalation, or if exposed to excess concentrations of vapor, remove subject to fresh air. If breathing stops, begin artificial respiration. Seek medical attention if symptoms persist.

Skin and Eyes: Flush any skin or eye contact with plenty of water for at least 15 minutes while removing contaminated clothing. If wearing contact lenses, remove them immediately and continue flushing. Additionally with skin contact, wash with soap and water. Refer to physician if irritation or symptoms persist.

Ingestion: Do not induce vomiting. Immediately call the Poison Control Center or physician for guidance. Never give anything by mouth if patient is unconscious. Obtain medical attention immediately.

ADDITIONAL INFORMATION

The information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user make a determination regarding the adequacy of the safety procedures employed during the use of this product.

No warranty of any kind is given or implied. Armstrong World Industries Canada Ltd. will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three (3) years.

WORK SITE ENVIRONMENT: Initially there may be a potential adverse impact on indoor air quality within the general work area during the installation process. Therefore, you should advise the building manager or other appropriate person that:

• It will be necessary to establish and maintain adequate ventilation of the work area, without causing the entry of contaminants to other parts of building; and

• Persons who are sensitive to odors and/or chemicals should be advised to avoid the work area during this process.

SECTION IX - PREPARATION DATE OF M.S.D.S.

PREPARED BY TELEPHONE NUMBER DATE
Environment, Health and Safety 1-877-276-7876, Opt 2,3,3 June 1, 2012

ADDITIONAL NOTES OR REFERENCES:

Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists
CNS = Central Nervous System
CPR = Controlled Product Regulations, Hazardous Product Act
IARC = International Agency for Research on Cancer
MSHA = Mine Safety and Health Administration
NIOSH = National Institute of Safety and Health
TLV = Threshold Limit Values
TWA = Time-Weighted Average

References:

1. Material Safety Data Sheets from raw materials’ suppliers.
2. ACGIH, Threshold Limit Values and Biological Exposure Indices for 1998.
5. Canadian Centre for Occupational Health and Safety, CHEMINFO databases.