MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1.
THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)
IMPORTANT: Read this MSDS before handling & disposing of this product.
Pass this information on to employees, customers, & users of this product.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT IDENTITY: CROWN XYLOL (XYLENE, Mixed Xylenes)
COMPANY IDENTITY: PACKAGING SERVICE CO., INC.
COMPANY ADDRESS: 1904 MYKAWA ROAD
COMPANY CITY: PEARLAND, TX 77581
COMPANY PHONE: 1-281-485-1458
CHEMTREC PHONE: 1-800-424-9300

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CONTAINS: 75-85% MIXED XYLENES (1330-20-7)[215-535-7],
15-25% ETHYLBENZENE (100-41-4)[202-849-4]
Number in parentheses is CAS #, number in brackets is European EC #.

This product is hazardous as defined in 29 CFR1910.1200, based on the following compositional information:

<table>
<thead>
<tr>
<th>OSHA HAZARD</th>
<th>COMPONENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable</td>
<td>Xylenes; Ethylbenzene</td>
</tr>
<tr>
<td>OSHA PEL;ACGIH TLV</td>
<td>Xylenes; Ethylbenzene</td>
</tr>
<tr>
<td>Eye Irritant</td>
<td>Xylene</td>
</tr>
<tr>
<td>Possible Carcinogen</td>
<td>Ethylbenzene</td>
</tr>
</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

RISK STATEMENTS:
Flammable Liquid
R36/37/38 Irritating to eyes, respiratory system and skin.
R20/65 Harmful by inhalation may cause lung damage if swallowed.

SAFETY STATEMENTS:
S16 Keep away from sources of ignition. No smoking.
S29 Do not empty into drains.
S24/25 Avoid contact with skin and eyes.

INHALATION:
High vapor/aerosol concentrations (attainable at elevated temperatures well above ambient) are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death Negligible hazard at ambient temperature (-18 to 38 Deg C; 0 to 100 Deg F)

INGESTION:
Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death. Low order of toxicity.

CHRONIC EFFECTS
This product contains ethylbenzene. The International Agency for Research on Cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.
SECTION 4. FIRST AID MEASURES

EYE CONTACT:
For eyes, flush with plenty of water for 15 minutes & get medical attention.

SKIN CONTACT:
In case of contact with skin immediately remove contaminated clothing. Wash thoroughly with soap & water. Wash contaminated clothing before reuse.

INHALATION:
After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped give artificial respiration.

SWALLOWING:
If swallowed, CALL A PHYSICIAN IMMEDIATELY! Do NOT induce vomiting. Have patient lie down & keep warm. Vomiting may lead to pneumonitis, which may be fatal.

SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:
NFPA Class B extinguishers (Carbon Dioxide or foam) for Class I C liquid fires.

FLASH POINT:
79 Deg F. METHOD: TCC ASTM D56 NOTE: Minimum

FLAMMABLE LIMITS:
LEL: 1.9 UEL: 12.3 @ 77 Deg F. NOTE: Approximate

AUTOIGNITION TEMP.:
932 Deg F. NOTE: Approximate

SPECIAL FIRE FIGHTING PROCEDURES:
Water spray may be ineffective on fire but can protect fire fighters & cool closed containers. Shut off fuel to fire. Use foam or dry chemical to extinguish fire. Use fog nozzles if water is used. Do not enter confined fire-space without full bunker gear. Respiratory and eye protection required for fire fighting personnel. (Helmet with face shield, bunker coats, gloves & rubber boots). Use NIOSH approved positive-pressure self-contained breathing apparatus.

UNUSUAL EXPLOSION AND FIRE PROCEDURES
FLAMMABLE!! VAPORS CAN CAUSE FLASH FIRE
This liquid is volatile and gives off invisible vapors. Keep container tightly closed. Isolate from oxidizers, heat, sparks, electric equipment & open flame. Closed containers may explode if exposed to extreme heat. Applying to hot surfaces requires special precautions. Empty container very hazardous! Continue all label precautions!

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, and carbon monoxide.

SECTION 6. ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES:
Stop spill at source. Dike area & contain.

CLEAN-UP PROCEDURES:
Clean up remainder with non-combustible absorbent materials. Mop up & dispose of. Persons without proper protection should be kept from area until cleaned up. If spilled on water, eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear. Remove from surface with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
SECTION 7. HANDLING AND STORAGE

HANDLING:
Isolate from oxidizers, heat, sparks, electric equipment & open flame. Use only with adequate ventilation. Avoid breathing of vapor or spray mist. Avoid prolonged or repeated contact with skin. Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse. Avoid free fall of liquid. ELECTROSTATIC ACCUMULATION HAZARD. Ground containers when transferring. Do not flame cut, saw, drill, braze, or weld. Empty container very hazardous! Continue all label precautions!

STORAGE:
Do not store above 49 C/120 F. Store large amounts in structures made for OSHA Class I C liquids Keep container tightly closed & upright when not in use to prevent leakage.

OSHA Class I C liquids

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEMPERATURE/STORAGE PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STORAGE TEMPERATURE Deg F:</td>
<td>Ambient</td>
</tr>
<tr>
<td>LOADING/UNLOADING TEMPERATURE</td>
<td>Ambient</td>
</tr>
<tr>
<td>STORAGE/TRANSPORT PRESSURE</td>
<td>Atmospheric</td>
</tr>
<tr>
<td>LOADING/UNLOADING VISCOSITY</td>
<td>0.7</td>
</tr>
</tbody>
</table>

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

EXPOSURE CONTROLS
Ventilate to keep vapors of this material below 50 ppm.
If over TLV, in accordance with 29 CFR 1910.134, use NIOSH approved positive-pressure self-contained breathing apparatus.
Consult Safety Equipment Supplier. Use explosion-proof equipment.

VENTILATION:
LOCAL EXHAUST: Necessary
MECHANICAL (GENERAL): Acceptable
SPECIAL: None
OTHER: None

PERSONAL PROTECTIONS:
Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse.

WORK & HYGIENIC PRACTICES:
Provide readily accessible eye wash stations & safety showers. Wash at end of each workshift & before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

WORKPLACE EXPOSURE GUIDELINES
OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:
A TWA of 100 ppm (435 mg/m3) and a STEL of 150 ppm (655 mg/m3) for Xylenes.
A TWA of 100 ppm (435 mg/m3) and a STEL of 125 ppm (545 mg/m3) for Ethyl Benzene.

THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:
A TWA of 100 ppm (434 mg/m3) and a STEL of 150 ppm (651 mg/m3) for Xylene, with an A4 designation.
A TWA of 100 ppm (434 mg/m3) and a STEL of 125 ppm (543 mg/m3) for Ethyl Benzene with an A3 designation.
### SECTION 9. PHYSICAL DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid, Water-White</td>
</tr>
<tr>
<td>Odor</td>
<td>Aromatic</td>
</tr>
<tr>
<td>Boiling Range</td>
<td>136 140 142 °C / 278 284 288 °F</td>
</tr>
<tr>
<td>Auto Ignition Temperature</td>
<td>510 °C / 950 °F (Lowest Component)</td>
</tr>
<tr>
<td>Lower Flammable Limit in Air (°% by vol)</td>
<td>1.1</td>
</tr>
<tr>
<td>Flash Point (Test Method)</td>
<td>27 °C / 81 °F (TCC)</td>
</tr>
<tr>
<td>Flammability Classification</td>
<td>Class I C</td>
</tr>
<tr>
<td>Gravity @ 60 °F</td>
<td>31.1</td>
</tr>
<tr>
<td>Specific Gravity (Water=1)</td>
<td>.870</td>
</tr>
<tr>
<td>Pounds/Gallon</td>
<td>7.247</td>
</tr>
<tr>
<td>VOC’s (&gt;0.44 Lbs/Sq In)</td>
<td>100.0 Vol. % / 871.0 g/L / 7.255 Lbs/Gal</td>
</tr>
<tr>
<td>Total VOC’s (TVOC)</td>
<td>100.0 Vol. % / 870.0 g/L / 7.247 Lbs/Gal</td>
</tr>
<tr>
<td>Nonexempt VOC’s (CVOC)</td>
<td>100.0 Vol. % / 870.0 g/L / 7.247 Lbs/Gal</td>
</tr>
<tr>
<td>Hazardous Air Pollutants (HAPS)</td>
<td>100.0 Wt. % / 870.0 g/L / 7.247 Lbs/Gal</td>
</tr>
<tr>
<td>Vapor Pressure (mm of Hg)@20 °C / 37 °C</td>
<td>6.4 / 14.2</td>
</tr>
<tr>
<td>Nonexempt VOC Partial Pressure (mm of Hg @ 20 °C)</td>
<td>6.4</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>3.7</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>Negligible</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.496</td>
</tr>
<tr>
<td>Freezing/ Melting Temp °F</td>
<td>-31</td>
</tr>
<tr>
<td>Evaporation Rate n-Bu Acetate=1</td>
<td>0.8 - Approximate</td>
</tr>
<tr>
<td>Solubility in Water, wt. % at Deg F</td>
<td>0.02 at 77 Calculated</td>
</tr>
<tr>
<td>Viscosity of Liquid, cSt at Deg F</td>
<td>0.7 at 77 Approximate</td>
</tr>
</tbody>
</table>

### SECTION 10. STABILITY & REACTIVITY

**Stability:**

Stable

**Conditions to Avoid:**

Isolate from oxidizers, heat, sparks, electric equipment & open flame.

**Materials to Avoid:**

Isolate from strong oxidizers such as permanganates, chromates & peroxides, concentrated nitric and sulphuric acids, halogen, and molten sulphur. Temperatures above ambient.

**Hazardous Decomposition Products:**

Carbon Monoxide, Carbon Dioxide from burning.

**Hazardous Polymerization:**

Will not occur.

### SECTION 11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS #</th>
<th>TWA (OSHA)</th>
<th>TLV (ACGIH)</th>
<th>HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Xylenes</td>
<td>1330-20-7</td>
<td>100 ppm</td>
<td>100 ppm A4</td>
<td>Yes</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>100 ppm</td>
<td>100 ppm A3</td>
<td>Yes</td>
</tr>
</tbody>
</table>

In addition to EPA Hazardous Air Pollutants showing 'Yes' under "HAP" above, using manufacturers' data, based on EPA Method 311, the following EPA Hazardous Air Pollutants may be present in trace amounts (less than 0.1%): Benzene, Toluene, Cumene. Refer to Section 13 for additional potential health effects.
MATERIAL | CAS # | CEILING | STEL (OSHA/ACGIH)
--- | --- | --- | ---
Mixed Xylenes | 1330-20-7 | None Known | 150 ppm
Ethylbenzene | 100-41-4 | None Known | 125 ppm

ACUTE HAZARDS

EYE & SKIN CONTACT:  
Primary irritation to skin, defatting, dermatitis. Absorption thru skin increases exposure. Primary irritation to eyes, redness, tearing, blurred vision. Liquid can cause eye irritation. Wash thoroughly after handling.

INHALATION:  
Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful. Acute overexposure can cause damage to kidneys, blood, nerves, liver & lungs.

SWALLOWING:  
Harmful or fatal if swallowed. Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.

SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED

CONDITIONS AGGRAVATED:  
Chronic overexposure can cause damage to kidneys, blood, nerves, liver & lungs. Persons with severe skin, liver or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:  
Potential Cancer Hazard based on tests with laboratory animals using Ethylbenzene. Overexposure may create cancer risk. Leukemia been reported in humans from Benzene. This product may contain less than 100 ppm of Benzene. Not considered hazardous in such low concentrations. Absorption thru skin may be harmful. Studies with laboratory animals indicate this product can cause damage to fetus.

SECTION 12. ECOLOGICAL INFORMATION

MAMMALIAN INFORMATION:

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>CAS #</th>
<th>LOWEST KNOWN LETHAL DOSE DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LOWEST KNOWN LD50 (ORAL)</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>4000.0 mg/kg (Rats)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LOWEST KNOWN LC50 (VAPORS)</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>5000 ppm (Mice)</td>
</tr>
</tbody>
</table>

AQUATIC ANIMAL INFORMATION: The most sensitive known marine group to any component of this product is: Fish are adversely affected by components of this product.

MOBILITY: This material is a mobile liquid.

DEGRADABILITY: This product is non-biodegradable.

ACCUMULATION: This product does not accumulate or biomagnify in the environment.
SECTION 13. DISPOSAL CONSIDERATIONS

Recycle / dispose of observing national, regional, state, provincial and local health, safety & pollution laws. If questions exist, contact the appropriate agencies.

SECTION 14. TRANSPORT INFORMATION

DOT SHIPPING NAME: Xylene, 3, UN1307, PG III
DRUM LABEL: (FLAMMABLE LIQUID)
49 CFR 173.150 allows “consumer commodity” quantities in packaging of one gallon or less to be reclassified as ORM-D material.
IATA / ICAO: Xylene, 3, UN1307, PG III
IMO / IMDG: Xylene, 3, UN1307, PG III

If >118 pounds of this product is in one container, the RQ is exceeded.

EMERGENCY RESPONSE GUIDEBOOK NUMBER: 130

SECTION 15. REGULATORY INFORMATION

STATE REGULATIONS:
CALIFORNIA PROPOSITION 65: This product contains the following chemical known to the State of California to cause cancer: Ethylbenzene

TSCA:
Components of this product are listed on the TSCA Inventory.

Clean Water Act/Oil Pollution Act:
This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.

CERCLA:
If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling 800-424-8802. The reportable spill quantity of this product is 118 pounds.
It contains: Xylene, Ethylbenzene.

SARA TITLE III:
Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories: Immediate health, Delayed Health, Fire.
This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.
This product contains the following Section 313 Reportable Ingredients:

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS #</th>
<th>MAX. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>85.0</td>
</tr>
<tr>
<td>Ethyl Benzene</td>
<td>100-41-4</td>
<td>25.0</td>
</tr>
</tbody>
</table>
INTERNATIONAL REGULATIONS:
The components of this product are listed on the chemical inventories of the following countries:
Australia, Canada, Europe (EINECS), Japan, Korea, United Kingdom.

SECTION 16. OTHER INFORMATION

HAZARD RATINGS:
- HEALTH (NFPA): 2
- HEALTH (HMIS): 2
- FLAMMABILITY: 3
- REACTIVITY: 0

This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING:
Employees should be made aware of all hazards of this material (as stated in this MSDS) before handling it.

NOTICE

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications. All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency. Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process. Unless revised this MSDS is effective until 12/3/2010.