## 2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Liquids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute Toxicity: Skin</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute Toxicity: Inhalation</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Aspiration Toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

### GHS Signal Word
- Danger

### GHS Hazard Phrases:
- H226: Flammable liquid and vapor.
- H304: May be fatal if swallowed and enters airways.
- H312: Harmful in contact with skin.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H351: Suspected of causing cancer if inhaled.
- H373: May cause damage to ears through prolonged or repeated exposure if inhaled.

### GHS Precaution Phrases:
- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P203: Keep away from heat/sparks/open flames/hot surfaces.
- P210: No smoking.
- P233: Keep container tightly closed.
- P240: Ground/bond container and receiving equipment.
- P241: Use explosion-proof electrical/ventilating/lighting equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P260: Do not breathe gas/mist/vapors/spray.
- P264: Wash hands thoroughly after handling.
GHS Response Phrases:

- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P235: Keep cool.
- P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P302+352: IF ON SKIN: Wash with plenty of soap and water.
- P303+365+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+313: IF exposed or concerned: Get medical attention/advice.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P321: Specific treatment see label.
- P331: Do NOT induce vomiting.
- P332+313: If skin irritation occurs, get medical advice/attention.
- P337+313: If eye irritation persists, get medical advice/attention.
- P362: Take off contaminated clothing and wash before re-use.
- P363: Wash contaminated clothing before reuse.
- P370+378: In case of fire, use dry chemical powder to extinguish.
- P403+233: Store container tightly closed in well-ventilated place.
- P405: Store locked up.
- P501: Dispose of contents/container according to local, state and federal regulations.

GHS Storage and Disposal Phrases:

- P403+233: Store container tightly closed in well-ventilated place.
- P405: Store locked up.
- P501: Dispose of contents/container according to local, state and federal regulations.

Hazard Rating System:

- HEALTH: 2
- FLAMMABILITY: 3
- PHYSICAL: 0
- PPE: X

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic):

- **Inhalation Acute Exposure Effects:**
  
  Vapor harmful. May cause dizziness, headache, irritation of respiratory tract, weakness, drowsiness, depression of central nervous system, and watering of eyes. Severe overexposure may cause unconsciousness, anesthesia, irregular heartbeat, and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

- **Skin Contact Acute Exposure Effects:**
  
  This product is a skin irritant. It may be absorbed through the skin. It may cause irritation, dermatitis, drying of skin, and numbness in fingers and arms. May increase severity of symptoms listed under inhalation.

- **Eye Contact Acute Exposure Effects:**
  
  This material is an eye irritant. It may cause irritation, redness, stinging, tearing, excessive swelling of the conjunctiva; and or excessive blinking.

- **Ingestion Acute Exposure Effects:**
  
  Harmful or fatal if swallowed. May cause nausea, vomiting, gastrointestinal irritation, or diarrhea.

- **Chronic Exposure Effects:**
  
  Reports have associated repeated and prolonged overexposure to solvents with
neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause skin irritation, permanent central nervous system changes, kidney damage, and liver damage.

**Medical Conditions Generally Aggravated By Exposure:** Diseases of the skin, liver, and kidneys.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Concentration</th>
<th>RTECS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330-20-7</td>
<td>Xylene (mixed isomers) {Benzene, dimethyl-}</td>
<td>60.0 -100.0 %</td>
<td>ZE2100000</td>
</tr>
<tr>
<td>100-41-4</td>
<td>Ethylbenzene {Ethylbenzol; Phenylethane}</td>
<td>10.0 -30.0 %</td>
<td>DA0700000</td>
</tr>
<tr>
<td>98-82-8</td>
<td>Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene}</td>
<td>0.1 -1.0 %</td>
<td>GR8575000</td>
</tr>
</tbody>
</table>

**Additional Chemical Information:** Ethylbenzene is a component of Xylene.

**4. FIRST AID MEASURES**

**Emergency and First Aid Procedures:**

*Inhalation:* If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

*Skin Contact:* Irritation may result. Immediately wash with soap and water.

*Eye Contact:* Immediately flush with water, remove any contact lenses, continue flushing with water for at least 15 minutes, then get medical attention.

*Ingestion:* Do not induce vomiting. Call your local poison control center, hospital emergency room, or physician immediately for instructions.

**Signs and Symptoms Of Exposure:** See Potential Health Effects.

**Note to Physician:** Call your local poison control center for further information.

**5. FIRE FIGHTING MEASURES**

**Flash Pt:** 81.00 F Method Used: Closed Cup

**Explosive Limits:**

<table>
<thead>
<tr>
<th>LEL:</th>
<th>AP 1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>UEL:</td>
<td>AP 7%</td>
</tr>
</tbody>
</table>

**Autoignition Pt:** 432.00 C

**Suitable Extinguishing Media:** Use carbon dioxide, dry powder, or foam.

**Fire Fighting Instructions:**

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

**Flammable Properties and Hazards:** Flammable Liquid! This material releases vapors at or below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, its vapor can cause a flash fire. Use only with adequate ventilation. Vapors are heavier than air and may travel long distances along the ground to an ignition source and flash back. A vapor and air
Flammability Classification:
mixture can create an explosion hazard in confined spaces such as sewers. If container is not properly cooled, it can rupture in the heat of a fire.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:
Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:
Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Precautions To Be Taken in Storing:
Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. EXPOSURE CONTROLS/PERSOANAL PROTECTION

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330-20-7</td>
<td>Xylene (mixed isomers) (Benzene, dimethyl-)</td>
<td>PEL: 100 ppm</td>
<td>TLV: 100 ppm</td>
<td>No data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 150 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100-41-4</td>
<td>Ethylbenzene (Ethylbenzol; Phenylethane)</td>
<td>PEL: 100 ppm</td>
<td>TLV: 100 ppm</td>
<td>No data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 125 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>98-82-8</td>
<td>Cumene (Benzene, 1-Methylethyl-; Isopropylbenzene)</td>
<td>PEL: 50 ppm</td>
<td>TLV: 50 ppm</td>
<td>No data.</td>
</tr>
</tbody>
</table>

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Respiratory Equipment (Specify Type): For OSHA controlled work place and other regular users --Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provided protection against vapors.

Eye Protection: Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves: Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile rubber may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing: Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices: Wash hands thoroughly after use and before eating, drinking, or smoking.

Do not eat, drink, or smoke in the work area.

Discard any clothing or other protective equipment that cannot be decontaminated.

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [ ] Gas      [ X ] Liquid      [ ] Solid

Appearance and Odor: Sweet, pungent aromatic hydrocarbon

Melting Point: -48.00 C - -25.00 C

Boiling Point: 280.00 F - 288.00 F

Autoignition Pt: 432.00 C

Flash Pt: 81.00 F    Method Used: Closed Cup

Explosive Limits: LEL: AP 1%    UEL: AP 7%

Specific Gravity (Water = 1): 0.87

Density: 7.18 LB/GL   at  77.0 F

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10. STABILITY AND REACTIVITY

Stability: Unstable [ ] Stable [ X ]

Conditions To Avoid -

Instability: No data available.

Incompatibility - Materials To Avoid:

Incompatible with strong oxidizing agents.

Hazardous Decomposition Or

Decomposition may produce carbon monoxide and carbon dioxide.

Byproducts:

Possibility of Hazardous Reactions:

Will occur [ ] Will not occur [ X ]

Conditions To Avoid -

Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:

Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross over-exposure.

CAS# 1330-20-7:
Acute toxicity, LC50, Inhalation, Rat, 5000. PPM, 4 H.
Result:
Behavioral: Muscle contraction or spasticity.
Lungs, Thorax, or Respiration:Other changes.

Standard Draize Test, Eyes, Species: Rabbit, 5.000 MG, 24 H, Severe.
Result:
Behavioral: General anesthetic.
Behavioral: Somnolence (general depressed activity).
Behavioral: Irritability.

CAS# 100-41-4:
Tumorigenic Effects:, TCLo, Inhalation, Rat, 750.0 ppm.
Chronic Toxicological Effects:

Result:
Tumorigenic: Carcinogenic by RTECS criteria.
Kidney, Ureter, Bladder: Tumors.

Standard Draize Test, Eyes, Species: Rabbit, 500.0 MG, Severe.
Result:
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth).
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
Xylene, all isomers:
Effects from Prolonged or Repeated Exposure:
Impaired neurological function was reported in workers exposed to solvents including xylene.
Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed.
Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure.

Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

Ethyl Benzene:
Effects from Prolonged or Repeated Exposure:
Findings from a 2-year inhalation study in rodents conducted by NTP were as follows:
Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). Also, the incidence of tumors was elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as “possibly carcinogenic to humans” (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

Carcinogenicity/Other Information:
- IARC 2B - Possibly Carcinogenic to Humans
- ACGIH A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
- ACGIH A4 - Not Classifiable as a Human Carcinogen.
12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Xylenes
DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN1307
Packing Group: III

Additional Transport Information: The shipper/supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI)
1330-20-7 Xylene (mixed isomers) (Benzene, dimethyl-) [X] Yes [ ] No
100-41-4 Ethylbenzene (Ethylbenzol; Phenylethane) [X] Yes [ ] No
98-82-8 Cumene (Benzene, 1-Methylethyl-; Isopropylbenzene) [X] Yes [ ] No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:
[X] Yes [ ] No Acute (immediate) Health Hazard
[X] Yes [ ] No Chronic (delayed) Health Hazard
[X] Yes [ ] No Fire Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard
[ ] Yes [X] No Reactive Hazard

Other US EPA or State Lists

CAS # Hazardous Components (Chemical Name) Other US EPA or State Lists
1330-20-7 Xylene (mixed isomers) (Benzene, dimethyl-) CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory; CA PROP.65: No
100-41-4 Ethylbenzene (Ethylbenzol; Phenylethane) CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory, 4 Test; CA PROP.65: Yes
98-82-8 Cumene (Benzene, 1-Methylethyl-; Isopropylbenzene) CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: Yes
16. OTHER INFORMATION

Revison Date: 04/17/2015
Preparer Name: W.M. Barr EHS Department (901)775-0100
Additional Information About This Product: No data available.
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