

## 1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

**Products governed by this MSDS:** PCNM02-###-XYL, PCNM03-###-XYL, PCNM04-###-XYL-Part 1, PCNM16-###-XYL, PCNM17-###-XYL Part 1, PCNM19A-###-XYL-Part 1, PCNM20-###-XYL-Part 1, PCNM-23-###-XYL, PCNM27-###-XYL-Part 1, PCNM27A-###-XYL-Part 1, PCNM30-###-XYL, PCNM-37-###-XYL, PCNM44-###-XYL, PCNM51-###-XYL, PCNM58-###-XYL-Part 1, PCSM03-###-XYL, PCSM04-###-XYL, PCNM63-###-XYL- Part 1, PCNM64-###-XYL-Part 1, SM02-###-XYL, SM03-###-XYL, SM23-###-XYL. Where “#” and “##” are any alpha numeric combination.

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## 2. HAZARD IDENTIFICATION

### GHS Classification

Aspiration Hazard (Category 1)  
 Skin irritation (Category 2)  
 Specific target organ toxicity - repeated exposure (Category 2)  
 Carcinogenicity (category 2)  
 Acute Aquatic toxicity (category 2)  
 Eye irritation (Category 2A)  
 Flammable Liquid (Category 3)  
 Specific target organ toxicity - single exposure (Category 3)  
 Acute toxicity, Dermal (Category 4)  
 Acute toxicity, Inhalation (Category 4)

### GHS Label elements

Precautionary pictograms:



Signal word: DANGER

Hazard statements:

H226	Flammable liquid and vapour
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
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life

**Precautionary statements:**
**Prevention:**

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilating/lighting equipment etc...
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face

**Response:**

P301+P310:	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352:	IF ON SKIN: Wash with plenty of water. If irritation persists, repeat flushing.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P331	Do not induce vomiting
P332+P313:	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse
P370+P378	In case of fire: Use dry sand, foam, carbon dioxide or dry chemical powder extinguisher for extinction.

**Storage:**

P403+P233	Store in a well ventilated place. Keep container tightly closed.
P403+P235	Store in a well ventilated place. Keep cool.
P405	Store locked up.

**Disposal:**

P501	Dispose of contents/container in accordance with all national and local regulations.
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### 3. COMPOSITION/INFORMATION OF INGREDIENTS

Chemical Name	CAS#	%
Zirconium dioxide (in nanocrystal form)	1314-23-4	25-75
Xylenes, mixed isomers	1330-20-7	9-72
Capping agent	Trade Secret	2-30
Ethylbenzene	100-41-4	1-24

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard found at 29 CFR 1910.1200. Exact concentrations are being withheld due to trade secrets and due to variability of concentrations covering the range of products indicated above.

#### 4. FIRST AID MEASURES

Consult a physician. Show this SDS to the doctor.

##### Eye

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes, while holding the eyelid(s) open. Obtain medical advice.

##### Skin

Remove contaminated clothing, shoes, and leather goods. Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with lukewarm gently flowing water and non-abrasive soap for 20 minutes. Use silicone oil to remove chemical if soap and water is insufficient. If irritation persists, repeat flushing. Obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

##### Inhalation

Move person to fresh air. Give artificial respiration if needed. If breathing is difficult, qualified personnel should administer oxygen. Get immediate medical attention.

##### Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

#### 5. FIRE-FIGHTING MEASURES

##### Extinguishing Media

Use water fog or spray, universal foam, carbon dioxide or dry chemical.

##### Special Fire Fighting Procedures

Wear an approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

##### Unusual Fire Hazards

Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Vapors can accumulate in low areas, and can form explosive concentrations.

##### Hazardous Decomposition Products

Oxides of carbon

#### 6. ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Vapor explosion hazard. Wear appropriate protective clothing to prevent eye and skin contact. Ventilate area. Keep out of sewers. Isolate area and keep unnecessary and unprotected personnel from entering the area. Cover with an inert absorbent material and collect into an appropriate container for disposal. Report spills and releases as required to appropriate authorities.

#### 7. HANDLING AND STORAGE

##### Handling

Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Keep product away from heat, sparks, flames and all other sources of ignition.

Vapors are heavier than air and may travel long distances and accumulate in low lying areas. Ignition and/or flashback can occur.

Electrically ground and bond all equipment. Use of non-sparking or explosion-proof equipment may be necessary. Empty containers can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

This product is a poor conductor of electricity and can become electrostatically charge, even in bonded or grounded equipment. Operations that can promote accumulation of static charges include but are not limited to mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, container cleaning, sampling, gauging, etc.

If dried, use approved PPE including respiratory protection and ventilation in the presence of solid

**Storage**

Store in a cool, dry, well-ventilated location away from incompatible materials. Keep containers closed when not in use. Minimize sources of ignition.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Component	Exposure Limits
Zirconium compounds	5 mg/m <sup>3</sup> TWA (OSHA)
Xylenes	TWA/PEL 100 ppm (OSHA) TWA 100 ppm (ACGIH TLV)
Capping agent (Trade Secret)	None Established
Ethylbenzene	TWA/PEL 100 ppm (OSHA) TWA 100 ppm (ACGIH TLV)

**Respiratory Protection**

If needed, an approved respirator with organic vapor/P100/N100 cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice. Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

**Skin Protection**

Impervious gloves are recommended. Consult with glove supplier.

**Eye Protection**

Chemical safety goggles recommended.

**Other Protective Equipment**

Impervious clothing is required to prevent skin contact and contamination of personal clothing. If dried, use approved PPE including respiratory protection and ventilation in the presence of solid.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Properties shown are for Xylenes/Ethylbenzene.

**Appearance and Odor:** Liquid, colorless to light yellow

<b>pH:</b>	Not available	<b>Specific Gravity:</b>	0.86 g/mL (20C)
<b>Boiling Point:</b>	137-140 °C	<b>Melting Point:</b>	<-25C (<-13F)
<b>Vapor Pressure:</b>	Not available	<b>Water Solubility:</b>	Not available
<b>Vapor Density:</b>	Not available	<b>Evaporation Rate:</b>	Not available
<b>Flash Point:</b>	25 °C (77 °F) Closed Cup	<b>Flammable Limits: LEL:</b>	1.1 vol%
<b>Flammable Limits: UEL:</b>	7 vol%		

**10. STABILITY AND REACTIVITY**
**Incompatible materials**

Strong oxidizing agents, strong acids, strong alkalis, reducing agents.

**Conditions to avoid**

Keep away from heat, sparks, flames and other sources of ignition.

**Hazardous Decomposition Products**

Combustion will produce oxides of carbon and unknown materials.

## 11. TOXICOLOGICAL INFORMATION

### Health Hazards:

Eye: Causes eye irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Aspiration: May be fatal if swallowed and enters airways.

Repeated/Chronic Exposure: central nervous system, auditory organs, lungs.

Specific target organ toxicity: narcotic effect. Respiratory tract irritation.

### Carcinogenicity:

An increased tumor incidence has been observed in experimental animals; the significance of this finding to man is unknown. (Ethylbenzene)

### No toxicological data available for product

### Xylenes Toxicity Data

Oral LD50 – rat: >2000 - <=5,000 mg/kg

Dermal LD50 – rabbit: > 1,700 mg/kg

Inhalation LC50 (4h) – rat: 5,000 ppm

## 12. ECOLOGICAL INFORMATION

### No data available for product

## 13. DISPOSAL INFORMATION

Dispose of by incineration.

Any leftover product is to be disposed of by incineration. Disposal in accordance with all local, state and federal regulations (40CFR260-268). Contaminated packaging is to be triple rinsed with appropriate organic solvent/monomer prior to being disposed of. The contaminated rinse solvent/monomer is to be treated as hazardous waste and must be disposed of by incineration. No other disposal method is acceptable.

## 14. TRANSPORT INFORMATION

<b>DOT Shipping Name:</b>	Xylenes Mixture
<b>DOT Hazard Class:</b>	3, PG III
<b>UN Number:</b>	UN1307
<b>Hazardous Substance:</b>	Xylenes
<b>Reportable Quantity:</b>	100 lbs
<b>IATA Shipping Name:</b>	Xylenes Mixture
<b>IATA Hazard Class:</b>	3, PG III
<b>UN Number:</b>	UN1307

## 15. REGULATORY INFORMATION

The status under the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) has not been determined. This product should only be used for Research and Development as allowed in 40 CFR 720.36.

Warning: this product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

**16. OTHER INFORMATION**

**SDS Date of Preparation:** 05/07/2015

**Glossary:**

IARC = International Agency for Research of Cancer

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Act

TSCA = Toxic substances Control Act

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