

## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

**1.1. Product identifier** COTIN\* 228 with Xylene

**Chemical Abstracts Registry No:** MIXTURE

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Catalyst for urethane systems

**1.3. Details of the supplier of the safety data sheet**

Vertellus LLC  
201 North Illinois Street, Suite 1800  
Indianapolis, Indiana 46204 USA  
1-336-292-1781

**e-mail Address:** sds@vertellus.com

**1.4. Emergency telephone number** **Vertellus:** 1-336-292-1781  
**CHEMTREC (USA):** +1-800-424-9300 (collect calls accepted)  
**CHEMTREC (International):** +1-703-527-3887 (collect calls accepted)  
**NRCC (China):** +86 25 85477110

### SECTION 2: Hazards identification

**2.1. Classification of the substance or mixture (According to Regulation (EC) No 1272/2008, 29 CFR 1910.1200 and the Globally Harmonized System)**

Specific Target Organ Systemic Toxicity Repeated Exposure Category 1  
Environmental Acute Category 1  
Skin Irritation Category 2  
Flammable Liquids Category 3  
Acute Toxicity Dermal Category 4  
Acute Toxicity Inhalation Dust / Mist Category 4  
Reproductive Toxicity Category 1B  
Germ Cell Mutagenicity Category 2

**2.2. Label elements**

**Hazard Symbols (Pictogram):**



**Signal Word:**

Danger

**Hazard Precautions:**

H372 - Causes damage to organs through prolonged or repeated exposure.  
H400 - Very toxic to aquatic life.  
H315 - Causes skin irritation.  
H226 - Flammable liquid and vapour.  
H312 - Harmful in contact with skin.  
H332 - Harmful if inhaled.

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H360FD - May damage fertility. May damage the unborn child.  
H341 - Suspected of causing genetic defects.

**Prevention Precautionary Statements:** P201 - Obtain special instructions before use.  
P210 - Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
P240 - Ground/bond container and receiving equipment.  
P241 - Use explosion-proof electrical/ventilating/lighting/telecommunication/computer/ equipment.  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P270 - Do not eat, drink or smoke when using this product.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

**First Aid Precautionary Statements:** P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.  
P314 - Get medical advice/attention if you feel unwell.  
P308+P313 - IF exposed or concerned: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P391 - Collect spillage.

### 2.3. Other hazards

**Other Hazards:** Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (weight %)	EC Number	CLP Inventory/ Annex VI	EU CLP Classification (1272/2008)
Ethylbenzene	100-41-4	1 - 5	Not listed.	601-023-00-4	Asp. Tox. 1; H304 Acute Tox. 4; H332 Flam. Liq. 2; H225 STOT RE 2; H373
Dibutyltin di-(2-ethylhexanoate)	2781-10-4	30 - 60	Not listed.	Not listed.	Aquatic Acute 1; H400 Eye Dam. 1; H318 Muta. 2; H341 Repr. 1B; H360 Skin Corr. 1C; H314 STOT RE 1; H372
Xylenes, mixed isomers	1330-20-7	30 - 60	Not listed.	601-022-00-9	Acute Tox. 4; H312 Acute Tox. 4; H332 Flam. Liq. 3; H226 Skin Irrit. 2; H315

NOTE: See Section 8 for exposure limit data for these ingredients. See Section 15 for trade secret information (where applicable).

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Rinse thoroughly. If irritation persists or other symptoms are observed, seek medical advice

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<b>Eye Contact:</b>	Immediately flush eyes with water for at least 15 minutes, holding eyelids apart. Get medical attention if irritation or other symptoms exist.
<b>Inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
<b>Ingestion:</b>	Contact a poison information service for immediate/additional treatment advice Do not give anything by mouth to an unconscious person. Do NOT induce vomiting.

### **4.2 Most important symptoms and effects, both acute and delayed**

<b>Acute:</b>	Irritating to skin. Mildly toxic by dermal and inhalation routes.
<b>Delayed Effects:</b>	Organic tins cause respiratory depression through muscle paralysis. This is usually a late development that happens over 2 to 4 days. Pulmonary function testing should be used to monitor the patient's respiratory effort.

### **4.3. Indication of any immediate medical attention and special treatment needed**

<b>Note to Physician:</b>	No specific indications. Treatment should be based on the judgment of the physician in response to the reactions of the patient. Pulmonary function testing should be used to monitor the patient's respiratory effort.
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## SECTION 5: Firefighting measures

### **5.1. Extinguishing media**

<b>Appropriate Extinguishing Media:</b>	Carbon dioxide, Dry chemical, Alcohol foam
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### **5.2. Special hazards arising from the substance or mixture**

<b>Hazardous Products of Combustion:</b>	During a fire, irritating and toxic gases/fumes/vapors containing tin and tin compounds may be released.
<b>Potential for Dust Explosion:</b>	Not applicable.
<b>Special Flammability Hazards:</b>	Severe explosion hazard in the form of vapor (within flammability limits) when exposed to heat, flame or static discharge. Flash back is possible over considerable distance.

### **5.3. Advice for firefighters**

<b>Basic Fire Fighting Guidance:</b>	Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Evacuate area and fight fire from a safe distance. Use water spray/fog for cooling.
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## SECTION 6: Accidental release measures

### **6.1. Personal precautions, protective equipment and emergency procedures**

<b>Evacuation Procedures:</b>	Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
<b>Special Instructions:</b>	See Section 8 for personal protective equipment recommendations. Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

### **6.2. Environmental precautions**

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Prevent releases to soils, drains, sewers and waterways.

### 6.3. Methods and material for containment and cleaning up

Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Remove all ignition sources. Ventilate the area of spill or leak. Wear protective equipment during clean-up. For small spills, use suitable absorbent material and collect for later disposal. For large spills, the area may require diking to contain the spill. Material can then be collected (eg., suction) for later disposal. Do not allow the spilled product to enter public drainage system or open waterways. Dispose of the material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws.

### 6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Precautions for Unique Hazards:** Not applicable.

**Practices to Minimize Risk:** Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material. Do not eat, drink or smoke in work areas. Prevent contact with incompatible materials. Avoid spills and keep away from drains. Handle in a manner to prevent generation of aerosols, vapors or dust clouds. Provide good ventilation to prevent build up of vapors. Use proper grounding procedures to avoid static electricity generation.

**Special Handling Equipment:** Use non-sparking tools and ground any equipment used in handling.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage Precautions & Recommendations:** This product should be stored at ambient temperature in a dry, well-ventilated location. Keep container closed when not in use.

**Dangerous Incompatibility Reactions:** Avoid strong acids, strong bases, and oxidizing agents.

**Incompatibilities with Materials of Construction:** None known

### 7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Country	Occupational Exposure Limit
Australia, Belgium, Canada (Ontario & Quebec), New Zealand, Singapore, S. Korea, USA NIOSH, UK (ethylbenzene)	100 ppm as 8-hour time-weighted average; 125 ppm as 15-minute short-term limit (ethylbenzene)
Austria, EU, Ireland, Italy, Latvia, Spain	100 ppm as 8-hour time-weighted average; 200 ppm as 15-minute short-term limit (ethylbenzene)
Switzerland	100 ppm as 8-hour time-weighted average; 100 ppm as 15-minute short-term limit

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(ethylbenzene)

Denmark, Austria, Sweden	50 ppm as 8-hour time-weighted average; 100 ppm as 15-minute short-term limit (ethylbenzene)
Germany (AGS & DFG)	20 ppm as 8-hour time-weighted average; 40 ppm as 15-minute short-term limit (ethylbenzene)
Finland	50 ppm as 8-hour time-weighted average; 200 ppm as 15-minute short-term limit (ethylbenzene)
France, Japan	20 ppm as 8-hour time-weighted average (ethylbenzene)
Austria, Belgium, EU, Finland, France, Ireland, Italy, Latvia, Spain, Sweden, UK	50 ppm as 8-hour time-weighted average; 100 ppm as 15-minute short-term limit (xylene)
Canada (Ontario & Quebec), Singapore, S. Korea, USA - NIOSH	100 ppm as 8-hour time-weighted average; 150 ppm as 15-minute short-term limit (xylene)
Australia	80 ppm as 8-hour time-weighted average; 150 ppm as 15-minute short-term limit (xylene)
China	100 mg/m <sup>3</sup> as 8-hour time-weighted average (ethylbenzene); 50 mg/m <sup>3</sup> as 8-hour time-weighted average (xylene)
Poland	200 mg/m <sup>3</sup> as 8-hour time-weighted average (ethylbenzene); 100 mg/m <sup>3</sup> as 8-hour time-weighted average (xylene)
The Netherlands	210 mg/m <sup>3</sup> as 8-hour time-weighted average (ethylbenzene); 215 mg/m <sup>3</sup> as 8-hour time-weighted average (xylene)
Hungary	442 mg/m <sup>3</sup> as 8-hour time-weighted average (ethylbenzene); 221 mg/m <sup>3</sup> as 8-hour time-weighted average (xylene)
USA - OSHA	100 ppm as 8-hour time-weighted average (ethylbenzene & xylene)
Denmark	25 ppm as 8-hour time-weighted average; 50 ppm as 15-minute short-term limit (xylene)

**Air Monitoring Method:** Collection media: Charcoal; Analysis Method: GC/FID

### 8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

**Other Engineering Controls:** All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.

**Personal Protective Equipment:** NIOSH-approved air purifying respirator with organic vapor cartridges or a continuous flow positive pressure air-supplied respirator as necessary against organic solvent vapor. NIOSH recommendations for organotin concentrations in air:

Up to 1 mg/m<sup>3</sup>: (APF = 10) Any purifying half-mask respirator with organic vapor cartridge(s) in combination with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100, P100. Any supplied-air respirator.

Up to 2.5 mg/m<sup>3</sup>: (APF = 25) Any supplied-air respirator operated in a continuous -flow mode. Any powered air-purifying respirator with an organic vapor cartridge(s) in combination with a high-efficiency particulate filter.

Up to 5 mg/m<sup>3</sup>: (APF = 50) Any air-purifying full-face respirator equipped with organic vapor cartridge(s) in combination with an N100, R100, or P100 filter. Any air-purifying full-face respirator (gas mask) equipped with a chin-style, front- or back-mounted organic vapor canister having in an N100, R100, or P100 filter. Any powered air-purifying respirator with a tight fitting facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter. Any supplied-air respirator with a tight fitting facepiece and is operated in a continuous-flow mode. Any self-contained breathing apparatus (SCBA) with a full face-piece. Any supplied-air respirator with a full face-piece.

Up to 25 mg/m<sup>3</sup>: (APF = 2000) Any supplied-air respirator with a full face-piece and operated in a pressure-demand or other positive pressure mode.

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Emergency or planned entry into unknown concentrations or IDLH conditions: (IDLH = 25 mg/m<sup>3</sup> [as Sn]) (APF = 10,000) Any self-contained breathing apparatus (SCBA) that has a full face-piece and is operated in a pressure demand or other positive-pressure mode. Any supplied-air respirator with a full face-piece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus.

Escape: (APF = 50) Any air-purifying full-face respirator equipped with organic vapor cartridge(s) in combination with an N100, R100, or P100 filter. Hand protection: PVC, nitrile or neoprene gloves (thickness >0.35mm, protection time >60 minutes). Glove break-through times can vary depending on the characteristic of the type of glove used, the exposure time and type of use. Consult your supplier for advice. Gloves should be replaced immediately if signs of degradation are observed. The applicable European Standard is EN 374. Where splashing, misting or contact with eyes is likely, wear a face shield.

<b>Respirator Caution:</b>	Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.
<b>Thermal Hazards:</b>	Not applicable.
<b>Environmental Exposure Controls:</b>	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<b>Appearance, State &amp; Odor (ambient temperature):</b>	Clear colorless liquid with aromatic odor		
<b>Vapor Pressure:</b>	7 - 8 mm Hg @ 25°C (est)	<b>Evaporation Rate:</b>	> 1 (Butyl Acetate = 1)
<b>Specific Gravity or Density:</b>	0.97 g/L	<b>Vapor Density (air = 1):</b>	>1
<b>Boiling Point:</b>	138 °C	<b>Freezing / Melting Point:</b>	No data available.
<b>Solubility in Water:</b>	Insoluble	<b>Octanol / Water Coefficient:</b>	No data available.
<b>pH:</b>	No data available.	<b>Odor Threshold:</b>	No data available.
<b>Viscosity:</b>	No data available.	<b>Autoignition Temperature:</b>	No data available.
<b>Flash Point and Method:</b>	81°F (27.2°C) TCC	<b>Flammable Limits:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.	<b>Decomposition Temperature:</b>	No data available.
<b>Explosive Properties:</b>	Not explosive.	<b>Oxidizing Properties:</b>	Not an oxidizer.

#### 9.2. Other information

Not applicable.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Not classified as dangerously reactive.

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<b>10.2. Chemical stability</b>	Stable under normal temperatures and pressures.
<b>10.3. Possibility of hazardous reactions</b>	Polymerization is not expected to occur
<b>10.4. Conditions to avoid</b>	Keep from contact with oxidizing materials, acids, sparks and open flame. Avoid humidity and moisture; product hydrolyzes on contact with water or moisture.
<b>10.5. Incompatible materials</b>	Avoid strong acids, strong bases, and oxidizing agents.
<b>10.6. Hazardous decomposition products</b>	Have not been determined.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<b>Acute Oral LD<sub>50</sub>:</b>	No data available.
<b>Acute Dermal LD<sub>50</sub>:</b>	No data available.
<b>Acute Inhalation LC<sub>50</sub>:</b>	No data available.
<b>Skin Irritation:</b>	May cause slight irritation.
<b>Eye Irritation:</b>	May cause slight irritation.
<b>Skin Sensitization:</b>	Not expected to be a sensitizer.
<b>Mutagenicity:</b>	This product has been shown not to be mutagenic based on a battery of assays.
<b>Reproductive / Developmental Toxicity:</b>	No data is available for this mixture.
<b>Carcinogenicity:</b>	This material is not listed by IARC, NTP or OSHA as a carcinogen. No test data is available that indicates this material is a carcinogen.
<b>Target Organs:</b>	Information is available that suggests dibutyltin substances may target the immune system (thymus gland).
<b>Aspiration Hazard:</b>	Not likely to be an aspiration hazard.
<b>Primary Route(s) of Exposure:</b>	Skin contact and absorption, eye contact, and inhalation. Ingestion is not likely to be a primary route of exposure.
<b>Most important symptoms and effects, both acute and delayed</b>	Irritating to skin. Mildly toxic by dermal and inhalation routes. Delayed Effects: Organic tins cause respiratory depression through muscle paralysis. This is usually a late development that happens over 2 to 4 days. Pulmonary function testing should be used to monitor the patient's respiratory effort.
<b>Additive or Synergistic effects:</b>	None known.

### SECTION 12: Ecological information

<b>12.1. Toxicity</b>	No data available.
<b>12.2. Persistence and degradability</b>	The half-life of Dibutyltin is > 9 days. The rate of biodegradation is accelerated by exposure to sunlight. Products of degradation are monobutyltin and inorganic tin (Sn).
<b>12.3. Bioaccumulative potential</b>	BCF = 31. The potential for bioconcentration in aquatic organisms is low.



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<u>12.4. Mobility in soil</u>	No data available
<u>12.5. Results of PBT and vPvB assessment</u>	No data available.
<u>12.6. Other adverse effects</u>	Dibutyl tin substances are known to exhibit acute aquatic toxicity.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

US EPA Waste Number:	D001
Waste Classification: (per US regulations)	Ignitable.
Waste Disposal:	NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations. Dispose of this material responsibly, and in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws, and environmental protection duty of care principles. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate classification code according to the European Community List of Wastes should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

### SECTION 14: Transport information

*The following information applies to all shipping modes (DOT/IATA/ICAO/IMDG/ADR/RID/ADN), unless otherwise indicated:*

14.1. UN number	UN1307	14.2. UN proper shipping name	Xylene solution
14.3. Transport hazard class(es)	3	14.4. Packing group	PG III
14.5. Environmental hazards	Marine Pollutant (dibutyltin di-(2-ethylhexanoate)		
NA Emergency Guidebook Numbers:	131	IMDG EMS:	S-D; F-E
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Consult regulations if shipping in bulk.		

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Inventory Lists:	Status:		
USA TSCA:	Listed	EINECS:	Listed
Canada(DSL/NDSL):	DSL	Japan:	Listed
Korea:	Listed	Australia:	Listed
China:	Listed	Philippines:	Listed
Taiwan:	Listed	New Zealand:	Listed
German Water Hazard Classification:	ID Number 7696, hazard class 3 - severe hazard to waters ( <i>Dibutyltin-compounds</i> )		
SARA 313:	Ethylbenzene - 1.0 percent de minimis concentration Xylene (mixed isomers) 0.1 % de minimis concentration		
Reportable Quantities:	Xylene (mixed isomers) 100 lbs		



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Ethylbenzene 1000 lbs

### Other Regulatory Listings:

Seveso P5c: Flammable liquids, categories 2 or 3

This product contains substances subject to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Based on the final product composition and the specifications of the raw materials, this product may contain trace levels [ $\leq 0.07\%$  as Cl] Dibutyltin dichloride (DBTC), which is a Substance of Very High Concern (SVHC) as determined by the European Chemicals Agency (ECHA) under REACH (EC No. 1907/2006).

### HMIS IV:

HEALTH	3
FLAMMABILITY	3
PHYSICAL HAZARD	0

### NFPA:



### 15.2. Chemical safety assessment

A chemical safety assessment has not been prepared for this mixture of substances.

## SECTION 16: Other information

**Classification Method:** On basis of test data  
 Expert judgment

### Legend of Abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.

CAS = Chemical Abstracts Service.

CFR = Code of Federal Regulations.

DSL/NDL = Domestic Substances List/Non-Domestic Substances List.

EC = European Community.

EINECS = European Inventory of Existing Commercial Chemical Substances.

ELINCS = European List of Notified Chemical Substances.

EU = European Union.

GHS = Globally Harmonized System.

LC = Lethal Concentration.

LD = Lethal Dose.

NFPA = National Fire Protection Association.

NIOSH = National Institute of Occupational Safety and Health.

NTP = National Toxicology Program.

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit.

RQ = Reportable Quantity.

SARA = Superfund Amendments and Reauthorization Act of 1986.

TLV = Threshold Limit Value.

WHMIS = Workplace Hazardous Materials Information System.

**Important Note:** Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. The information contained herein may change without prior notice. THIS SAFETY DATA SHEET SUPERSEDES ALL PREVIOUS EDITIONS.

**Revision Date:** 28 Jun 2016

**Original Date of Issue:** 09 Nov 2009

**Issued by:** Regulatory Management Department

**Email:** SDS@Vertellus.com

**Revision Details:** Revised in all sections to GHS format.