

## SAFETY DATA SHEET

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

**1.1. Product identifier** COTIN\* 200

**Chemical Abstracts Registry No:** 77-58-7

**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**

Aurorium  
 201 North Illinois Street, Suite 1800,  
 Indianapolis, IN 46204  
 336-292-1781

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

**1.4. Emergency telephone number**

**Aurorium:** 1-336-292-1781  
**CHEMTREC (USA):** 1-800-424-9300 (collect calls accepted)  
**CHEMTREC (International):** 1-703-527-3887 (collect calls accepted)  
**NRCC (China):** +86 532 83889090

### 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 Chronic Category 1  
 Skin Corrosion/Irritation Category 1C  
 Skin Sensitization Category 1  
 Reproductive Toxicity Category 1B  
 Germ Cell Mutagenicity Category 2  
 Specific Target Organ Systemic Toxicity Single Exposure Category 1  
 Environmental Acute Category 1

**2.2. Label elements**

**Hazard Symbols (Pictogram):**



**Signal Word:**

Danger

**Hazard Precautions:**

H314 - Causes severe skin burns and eye damage.  
 H317 - May cause an allergic skin reaction.  
 H360 - May damage fertility or the unborn child.  
 H341 - Suspected of causing genetic defects.  
 H370 - Causes damage to organs.

## SAFETY DATA SHEET

<b>Prevention Precautionary Statements:</b>	H372 - Causes damage to organs through prolonged or repeated exposure. H410 - Very toxic to aquatic life with long lasting effects. H400 - Very toxic to aquatic life. P201 - Obtain special instructions before use. 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. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
<b>First Aid Precautionary Statements:</b>	P307+P311 - IF exposed: Call a POISON CENTER or doctor/physician. P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P308+P313 - IF exposed or concerned: Get medical advice/attention. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER or doctor/physician. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P363 - Wash contaminated clothing before reuse. P391 - Collect spillage. P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
<b>Disposal Precautionary Statements:</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

### 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)
Dibutyltin dilaurate	77-58-7	~ 100	201-039-8	Not listed.	Aquatic Chronic 1; H410 Muta. 2; H341 Repr. 1B; H360 Skin Corr. 1C; H314 Skin Sens. 1; H317 STOT RE 1; H372 STOT SE 1; H370 Aquatic Acute 1; H400

NOTE: See Section 8 for exposure limit data for these ingredients. See Section 15 for trade secret information (where applicable). See Section 16 for the full text of the R-phrases above.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>Skin Contact:</b>	Wash thoroughly after skin contact. Get medical attention immediately. The exposed area should be examined by medical personnel if irritation or pain persists after the area has been washed. As quickly as possible, remove all contaminated clothing, shoes and leather goods (watchbands, belts). Thoroughly wash or discard clothing and shoes before reuse.
<b>Eye Contact:</b>	Immediately flush the eyes with plenty of water for at least 15 minutes. Call a physician. If irritation

## SAFETY DATA SHEET

persists, repeat flushing.

- Inhalation:** Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment, use the buddy system. Remove from exposure. If not breathing, give artificial respiration and call a physician. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice.
- Ingestion:** Never administer anything by mouth if a victim is losing consciousness, is unconscious, or is convulsing. If swallowed, do not induce vomiting. Get prompt medical attention. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

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

- Acute:** Very Toxic by inhalation. Overexposure may cause nausea and headache, central nervous system effects such as dizziness, weakness, psycho-neurologic disturbance general weakness and loss of coordination, sore-throat, cough; abdominal pain and vomiting; urine retention; paresis. In tests with animals, symptoms of ingestion toxicity include hemolysis, hepatic necrosis and kidney damage. Harmful in contact with skin Contact causes severe skin irritation and possible burns. Direct contact with eyes causes moderate irritation and possible burns and may cause permanent injury.
- 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.

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

- Note to Physician:** Medical observation is recommended for 24-48 hours as symptoms may be delayed. No specific indications. Treatment should be based on the judgment of the physician in response to the reactions of the patient.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Appropriate Extinguishing Media:** Carbon dioxide, Dry chemical, Alcohol foam

### 5.2. Special hazards arising from the substance or mixture

- Hazardous Products of Combustion:** Irritating and/or toxic fumes may be released if this material is burned.
- Potential for Dust Explosion:** not available
- Special Flammability Hazards:** Material may burn, but does not ignite readily. Avoid high temperature.

### 5.3. Advice for firefighters

- Basic Fire Fighting Guidance:** Evacuate area and fight fire from a safe distance. Use water spray/fog for cooling.

## SECTION 6: Accidental release measures

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

- Evacuation Procedures:** Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

## SAFETY DATA SHEET

**Special Instructions:** 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

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.

**Special Handling Equipment:** Not applicable.

### 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
China	0.1 mg/m <sup>3</sup> as 8 hour limit value; 0.2 mg/m <sup>3</sup> as 15 minute limit value (Dibutyltin dilaurate)
Germany (AGS)	0.009 mg/m <sup>3</sup> (0.0018ppm) as 8 hour limit value; 0.009 mg/m <sup>3</sup> (0/0018ppm) as 15 minute limit value (Di-n-butyl tin compounds)

## SAFETY DATA SHEET

**Air Monitoring Method:** Not applicable.

### 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:** Impervious gloves, boots, and clothing, chemical goggles or face shield where necessary, and a NIOSH approved chemical cartridge respirator or supplied air breathing apparatus with organic vapour/acid gas cartridges with particle filters. 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.  
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.

**Respirator Caution:** Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.

**Thermal Hazards:** Not applicable.

**Environmental Exposure Controls:** 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

**Appearance, State & Odor (ambient temperature):** Clear liquid with a mild odor

**Molecular Formula:** C32H64O4Sn      **Molecular Weight:** 631.55 g/mol

## SAFETY DATA SHEET

Vapor Pressure:	< 1 Pa @ 25°C	Evaporation Rate:	> 1 (Butyl Acetate = 1)
Specific Gravity or Density:	1.043 g/mL	Vapor Density (air = 1):	15.4
Boiling Point:	205 °C	Freezing / Melting Point:	No data available.28 °C
Solubility in Water:	Insoluble	Octanol / Water Coefficient:	2
pH:	No data available.	Odor Threshold:	No data available.
Viscosity:	Gardner A-1	Autoignition Temperature:	>400C
Flash Point and Method:	300°F (149°C) TCC	Flammable Limits:	No data available.
Flammability (solid, gas):	Not applicable	Decomposition Temperature:	No data available.
Explosive Properties:	Not explosive	Oxidizing Properties:	Not an oxidizer

### SECTION 10: Stability and reactivity

<b><u>10.1. Reactivity</u></b>	Not classified as dangerously reactive.
<b><u>10.2. Chemical stability</u></b>	Stable under normal temperatures and pressures.
<b><u>10.3. Possibility of hazardous reactions</u></b>	Not expected to occur.
<b><u>10.4. Conditions to avoid</u></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><u>10.5. Incompatible materials</u></b>	Can react vigorously with oxidizing materials.; Caustics (bases); Acids
<b><u>10.6. Hazardous decomposition products</u></b>	Irritating and/or toxic fumes may be released if this material is burned.

### SECTION 11: Toxicological information

#### **11.1. Information on toxicological effects**

Acute Oral LD <sub>50</sub> :	175 mg/kg (rat)	Dibutyltin dilaurate
Acute Dermal LD <sub>50</sub> :	630 mg/kg (rabbit)	Dibutyltin dilaurate
Acute Inhalation LC <sub>50</sub> :	No data available	Dibutyltin dilaurate
Skin Irritation:	Moderately irritating to skin.	
Eye Irritation:	Moderately irritating to eyes.	
Skin Sensitization:	Positive in Human Repeat Insult Patch test	
Mutagenicity:	Not mutagenic : Negative to Ames test	
Reproductive / Developmental Toxicity:	Potential Teratogen.	
Carcinogenicity:	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.	

## SAFETY DATA SHEET

Target Organs:	Respiratory System Central nervous system
Primary Route(s) of Exposure:	Skin contact and absorption, eye contact, ingestion, inhalation.
Most important symptoms and effects, both acute and delayed	Very Toxic by inhalation. Overexposure may cause nausea and headache, central nervous system effects such as dizziness, weakness, psycho-neurologic disturbance general weakness and loss of coordination, sore-throat, cough; abdominal pain and vomiting; urine retention; paresis. In tests with animals, symptoms of ingestion toxicity include hemolysis, hepatic necrosis and kidney damage. Harmful in contact with skin Contact causes severe skin irritation and possible burns. Direct contact with eyes causes moderate irritation and possible burns and may cause permanent injury. 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.
Additive or Synergistic effects:	None known.

### SECTION 12: Ecological information

<u>12.1. Toxicity</u>	EC50 (72h) <i>Desmodesmus subspicatus</i> > 1 mg/L EC50 (48h) <i>Daphnia magna</i> 1.9 - 3.8 mg/L EC50 (3h) Activated Sludge > 1000 mg/L	Dibutyltin dilaurate
<u>12.2. Persistence and degradability</u>	Does not biodegrade readily.	
<u>12.3. Bioaccumulative potential</u>	BCF = 31. The potential for bioconcentration in aquatic organisms is low.	
<u>12.4. Mobility in soil</u>	No data available	
<u>12.5. Results of PBT and vPvB assessment</u>	This substance is not a PBT or vPvB.	
<u>12.6. Other adverse effects</u>	No data available.	

### SECTION 13: Disposal considerations

<u>13.1. Waste treatment methods</u>	
US EPA Waste Number:	Non-Hazardous
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	UN2788	14.2. UN proper shipping name	Organotin Compound, Liquid, n.o.s. (Dibutyltin Dilaurate)
-----------------	--------	-------------------------------	-----------------------------------------------------------



## SAFETY DATA SHEET

14.3. Transport hazard class(es)	6.1	14.4. Packing group	PG III
14.5. Environmental hazards	Marine Pollutant		
14.6. Special precautions for user	No data available.		
NA Emergency Guidebook Numbers:	153	IMDG EMS:	S-A; F-A
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code			Not applicable.

### SECTION 15: Regulatory information

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

<b>Chemical Inventory Lists:</b>	<b>Status:</b>		
USA TSCA:	Listed	EINECS:	201-039-8
Canada(DSL/NDSL):	DSL	Japan:	(2)-2330
Korea:	KE-09969	Australia:	Listed
China:	Listed	Philippines:	Listed
Taiwan:	Listed	New Zealand:	Listed
<b>German Water Hazard Classification:</b>	ID Number 2011, hazard class 3 - severe hazard to waters ( <i>Dibutylzinnmaleat</i> )		
<b>SARA 313:</b>	Not listed.		
<b>Other Regulatory Listings:</b>	This product may contain trace levels [ $\leq 0.07\%$ as Cl] of Dibutyltin dichloride (DBTC) which is listed as an SVHC under Article 59(10) of the REACH Regulation.		

<b>HMIS:</b>	<b>HEALTH</b>	<b>2</b>
	<b>FLAMMABILITY</b>	<b>1</b>
	<b>PHYSICAL HAZARD</b>	<b>1</b>

**NFPA:**



#### 15.2. Chemical safety assessment

Not applicable.

### SECTION 16: Other information

**Training Advice:** Not applicable.

#### Legend of Abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.  
CAS = Chemical Abstracts Service.  
CFR = Code of Federal Regulations.  
DSL/NDSL = 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.



## SAFETY DATA SHEET

**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.**

<b>Revision Date:</b>	26 Jul 2017	<b>Original Date of Issue:</b>	09 Nov 2009
<b>Issued by:</b>	Regulatory Management Department	<b>Email:</b>	SDS@aurorium.com
<b>Revision Details:</b>	Revised in all sections to GHS format.		