

# MATERIAL DATA SHEET

## I. PRODUCT AND COMPANY INFORMATION

TRADE NAME: Ultra Seal® Bio  
CHEMICAL FAMILY: Polyester  
CAS No: 9051-89-2  
Date Prepared: 4/13/2011

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## II. COMPOSITION, INFORMATION ON INGREDIENTS

<u>CHEMICAL NAME</u>	<u>COMMON NAME</u>	<u>CONTENTS</u>	<u>EPA RQ</u>	<u>TPQ</u>
Poly lactide Resin (C6H8O4)x	Polylactic Acid (PLA)	> 98 %		
Proprietary Additives		< 2 %		

## III. HAZARDS IDENTIFICATION

<b>EMERGENCY OVERVIEW:</b>	Practically non-toxic
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### **ACUTE EFFECTS:**

<b>HEALTH HAZARDS, GENERAL:</b>	Negligible hazard at room temperature and normal usage.
<b>INHALATION:</b>	May cause shortness of breath, tightness of chest, a sore throat, and cough. Low hazard for usual industrial or commercial handling.
<b>INGESTION:</b>	May cause gastrointestinal irritation, nausea, vomiting, or diarrhea.
<b>SKIN:</b>	Essentially no irritation to skin. Mechanical injury only.
<b>EYES:</b>	Solid particles or dust may cause transient irritation as a result of mechanical abrasion. Process fumes may cause irritation.

### **CHRONIC EFFECTS:**

<b>CARCINOGENICITY:</b>	NPT: No	IARC: No	OSHA: No
<b>ROUTE OF ENTRY:</b>	Inhalation. Skin and/or eye contact.		
<b>TARGET ORGANS:</b>	Respiratory system, lungs. Skin. Eyes.		

## IV. FIRST AID MEASURES

<b>GENERAL:</b>	Persons seeking medical attention should carry a copy of this MSDS with them.
<b>INHALATION:</b>	Allow the victim to rest in a well ventilated area. If not breathing give artificial respiration. If breathing is difficult give oxygen. Seek medical attention if irritation of respiratory passages occurs.
<b>INGESTION:</b>	If swallowed and person is conscious, wash out mouth with water. Seek immediate medical attention.
<b>SKIN:</b>	After contact with skin, wash immediately with plenty of water. Seek medical attention if irritation develops.
<b>EYES:</b>	Check for & remove contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Consult physician if irritation or other symptoms occur.
<b>NOTES TO PHYSICIAN:</b>	Treat symptomatically.

## V. FIRE FIGHTING MEASURES

<b>AUTO-IGNITION TEMP (C):</b>	388
<b>FLAMMABILITY LIMIT - LOWER(%):</b>	Not Applicable
<b>FLAMMABILITY LIMIT - UPPER(%):</b>	Not Applicable
<b>EXTINGUISHING MEDIA:</b>	Dry chemical powder, carbon dioxide, alcohol type, water spray, universal fog, or foam. <b>DO NOT USE WATER JET!</b>
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b>	NIOSH approved positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing.
<b>UNUSUAL FIRE &amp; EXPLOSION HAZARDS:</b>	Cool containers / tanks with water spray. Water mist may be used to cool closed containers.
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	None Known

## VI. ACCIDENTAL RELEASE MEASURES

<b>PERSONAL PRECAUTIONS:</b>	Wear proper personal protective equipment (see MSDS Section 8).
<b>SPILL CLEAN-UP PROCEDURES:</b>	Avoid generating and spreading of dust. Shovel or sweep up and place in dry containers. Cover and move the containers. Flush the area with water. Repackage or recycle if possible. Product will bio-degrade.

## VII. HANDLING AND STORAGE

<b>HANDLING PRECAUTIONS:</b>	Use good housekeeping procedures. Spilled product may create slipping hazard. Avoid generation of dust. Eye wash and emergency shower must be available at the work place. Wash hands and change clothing when needed. Provide good ventilation. Wear protective equipment as per MSDS Section 8.
<b>STORAGE PRECAUTIONS:</b>	Store in closed, dry containers and away from direct sunlight. Keep at temperatures below 50 C. To prevent product degradation keep containers closed.

## VIII. EXPOSURE CONTROLS, PERSONAL PROTECTION

INGREDIENT NAME:	OSHA PEL		ACGIH TLV		OTHER		
	TWA	STEL	TWA	STEL	TWA	STEL	UNITS
Polylactide	15		10				mg/m3 resp.dust

<b>INGREDIENT COMMENTS:</b>	No exposure limits noted for ingredient(s). Exposure limits are for Particulates Not Otherwise Classified (PNOC).
<b>ENGINEERING CONTROLS:</b>	General ventilation should be sufficient if dust exposure does not exceed the OSHA PEL for nuisance dust. In high airborne concentrations, use appropriate engineering controls such as, exhaust ventilation and process enclosure, to reduce air contamination and keep worker exposure below the applicable limits.
<b>VENTILATION:</b>	Supply natural or mechanical ventilation adequate to exhaust airborne product and keep exposures below the applicable limits.
<b>RESPIRATORS:</b>	None required in normal usage. Use NIOSH-approved dust-mask disposable when handling powder.
<b>PROTECTIVE GLOVES:</b>	Use suitable protective gloves if risk of skin contact.
<b>EYE PROTECTION:</b>	Safety glasses.
<b>PROTECTIVE CLOTHING:</b>	Wear impervious clothing to prevent repeated or prolonged skin contact.
<b>HYGIENIC WORK PRACTICES:</b>	Minimize contact with skin. Do not eat, drink, or smoke in work areas. Wash hands after handling, before eating, drinking, smoking, chewing, or using restroom facilities. Clothing and shoes should be cleaned before reuse.

## IX . PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE/PHYSICAL STATE:</b>	Powder, dust and granular.
<b>BOILING POINT (F):</b>	Not Applicable.
<b>COLOR:</b>	Usually white but can vary.
<b>CRITICAL TEMPERATURE (F):</b>	Not Available
<b>DECOMPOSITION TEMPERATURE (C):</b>	250
<b>DENSITY / SPECIFIC GRAVITY:</b>	1.24 (Water = 1)
<b>EVAPORATION RATE:</b>	Not Applicable
<b>FLASH POINT (F):</b>	Not Applicable
<b>FREEZING POINT (F):</b>	Not Applicable
<b>MELTING POINT (C):</b>	150 - 180 C
<b>MOLECULAR WEIGHT:</b>	Various
<b>ODOR:</b>	Sweet (Slight)
<b>pH-VALUE, DILUTED SOLUTION:</b>	N/D CONCENTRATION (%M):
<b>SOLUBILITY DESCRIPTION:</b>	Insoluble in water.
<b>SOLUBILITY VALUE (g/100g H2O 68°F):</b>	Not Applicable
<b>VOLATILITY (%):</b>	Not Applicable
<b>VAPOR DENSITY (air=1):</b>	Not Applicable
<b>VAPOR PRESSURE:</b>	Not Applicable

## X. STABILITY AND REACTIVITY

<b>STABILITY:</b>	Stable under recommended storage conditions.
<b>CONDITIONS TO AVOID:</b>	Temperatures above 230 C.
<b>HAZARDOUS POLYMERIZATION:</b>	Will not polymerize.
<b>POLYMERIZATION DESCRIPTION:</b>	Not relevant.
<b>MATERIALS TO AVOID:</b>	Oxidizing agents, strong bases.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Burning produces obnoxious and toxic fumes. (Aldehydes, carbon monoxide, carbon dioxide)
<b>INSTABILITY TEMPERATURE (C):</b>	250 C (Decomposition Temperature)

## XI. TOXICOLOGICAL INFORMATION

<b>TOXIC DOSE - LD 50:</b>	No toxicology data available. Material is not considered hazardous under the OSHA Hazard Communication Standard.
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## XII. ECOLOGICAL INFORMATION

<b>Environmental Fate:</b>	This material does not bioaccumulation and is inherently biodegradable.
<b>Environmental Toxicity:</b>	EC50 / 72h / algae > 1100 mg/L
<b>BOD5 and COD:</b>	Not available.
<b>Products of Biodegradation:</b>	Possibly hazardous short term degradation products are not likely.
<b>Toxicity of the Products of Biodegradation:</b>	The products of degradation are less toxic than the product itself.

## XIII. DISPOSAL CONSIDERATIONS

<b>WASTE MANAGEMENT:</b>	This product, should it become a waste, is not hazardous by U.S. RCRA criteria.
<b>DISPOSAL METHODS:</b>	Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in accordance with Federal, State, and local environmental laws.

#### XIV. TRANSPORT INFORMATION

<b>PRODUCT RQ:</b>	N/A
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#### **U.S. DOT:**

<b>CLASS:</b>	Not regulated.
<b>Shipping Name:</b>	Not Listed
<b>Label:</b>	Not Regulated
<b>Hazard Class:</b>	N/A
<b>Transportation:</b>	Non-Hazardous for Air or other transportation.

#### **UN/NA**

<b>Number:</b>	None
<b>Hazard Labels:</b>	N/A
<b>Hazard Placards:</b>	N/A
<b>Packing Group:</b>	N/A
<b>Bulk Packaging:</b>	N/A
<b>Emergency Response No.:</b>	N/A

#### **CANADIAN TRANSPORT:**

<b>WHMIS Classification:</b>	Not a controlled product
<b>DSL/NDSL:</b>	Included on domestic substance list
<b>TDG:</b>	Not regulated

#### **SEA TRANSPORT:**

<b>IMDG CLASS:</b>	<b>Not regulated.</b>
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#### **AIR TRANSPORT:**

<b>ICAO/IATA CLASS:</b>	<b>Not regulated.</b>
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#### IV. REGULATORY INFORMATION

#### **REGULATORY STATUS OF INGREDIENTS:**

<b>NAME:</b>	<b>CAS No:</b>	<b>TSCA:</b>	<b>CERCLA:</b>	<b>SARA 302:*</b>	<b>SARA 313:**</b>	<b>SARA 311/312***</b>
Polylactic Acid	9051-89-2	Listed	None	None	None	None

#### **US FEDERAL REGULATIONS:**

<b>WASTE CLASSIFICATION:</b>	EPA not regulated. Not a hazardous waste.
<b>REGULATORY STATUS:</b>	<p>This Product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented):</p> <p>EPA - Not Regulated OSHA - Not a hazardous under the criteria of Occupational Safety and Health Standard 29 CFR 1910 Subpart Z.</p> <p>The components of this product are listed on or are exempt from the following international chemical registries: TSCA (U.S.) DSL (Canada) EINECS (Europe) Not classified as dangerous according to Directive 1999/45/EC.</p>

**STATE REGULATIONS:**

<b>STATE REGULATORY STATUS:</b>	This product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented):  None.  CA PROPOSITION 65: This product does not contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required.
<b>REGULATORY STATUS:</b>	This Material Safety Data Sheet has been prepared in compliance with the Controlled Product Regulations.  Canadian WHMIS Classification: Not a controlled product.

**XVI. OTHER INFORMATION**

<b>NPCA HMIS HAZARD INDEX:</b>	0
<b>FLAMMABILITY:</b>	1
<b>REACTIVITY:</b>	0
<b>NPCA HMIS PERS. PROTECT. INDEX:</b>	B
<b>USER NOTES:</b>	N/A = Not applicable N/D = Not determined
<b>INFORMATION SOURCES:</b>	Product information provided by the commercial vendor(s).

N/A = Not Applicable  
 TLV = Threshold Limit Value  
 UNK = Unknown at This Time

	<table border="1"> <thead> <tr> <th colspan="2">HMIS</th> </tr> </thead> <tbody> <tr> <td>HEALTH</td> <td style="text-align: right;">0</td> </tr> <tr> <td>FLAMMABILITY</td> <td style="text-align: right;">1</td> </tr> <tr> <td>PHYSICAL HAZARD</td> <td style="text-align: right;">0</td> </tr> </tbody> </table>	HMIS		HEALTH	0	FLAMMABILITY	1	PHYSICAL HAZARD	0
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HEALTH	0								
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**DISCLAIMER:**

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We cannot make any assertions as to its reliability or completeness; therefore, user may rely on it only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.