SAFETY DATA SHEET

Revision 4, 2019-03-21

Section 1 - Chemical Product and Company Information

Product Name: Tec-U-Seal 500 Series 521,580,587,590,598

Product Code: TUS500Series

TECTORIUS
56732 MOUND ROAD
SHELBY TOWNSHIP, MICHIGAN 48316
(586) 232-3999

Emergency Contact:
InfoTrac
USA 800-535-5053
International 352-323-350

Product Use: Industrial Use Only

Not recommended for

Section 2 - Hazards Identification

Emergency Overview

Color:	black, yellow, green, blue or purple
Physical state:	liquid
Form:	viscous
Odor:	pungent – styrene like
EU Risk Phrases:	N.A.
EU Safety Phrases	N.A.

GHS Ratings:

Skin corrosive	1A	Destruction of dermal tissue: Exposure < 3 min. Observation < 1 hour, visible necrosis in at least one animal
Eye corrosive	1	Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity >= 3, Iritis > 1.5
Skin sensitizer	1	Skin sensitizer

GHS Hazards

H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage

GHS Precautions

P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash … thoroughly after handling
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves/protective clothing/eye protection/face protection
P310	Immediately call a POISON CENTER or doctor/physician
P321	Specific treatment (see Section 4 on this label)
P363	Wash contaminated clothing before reuse
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P352	IF ON SKIN: Wash with soap and water
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 continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention

Signal Word: Warning

Potential Health Effects:
Contains polymer(s). Effects due to processing releases residual monomer: Irritating to eyes, respiratory system and skin. May cause allergic respiratory reaction. Prolonged or repeated exposure may cause: headache, drowsiness, nausea, and weakness. (Severity of effects depends on extent of exposure) .

Medical conditions aggravated by overexposure:
Respiratory disease or diminished respiratory capacity. Asthma. (Data for residual monomer that may be released during processing)

Other:
This product may release fumes and/or vapors of variable composition depending on processing time and temperature. Possible release of traces of residual monomer. Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition. Possible cross sensitization with other acrylates and methacrylates

Carcinogenicity:
The following chemicals comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA (mandatory listing), or ACGIH (optional listing):
NA

Section 3 - Composition / Information on Ingredients

Chemical Name	CAS number	Weight Concentration %
Urethane Co Polymer	Trade Secret	50.00% - 60.00%
Acrylic monomer	5888-33-5	20.00% - 30.00%
Titanium dioxide	13463-67-7	0.10% - 5.00%

Section 4 - First Aid Measures

Inhalation:
If inhaled, remove victim to fresh air.

Eyes:
Immediately flush eye(s) with plenty of water.

Skin:
In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Ingestion:
If swallowed, DO NOT induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

Section 5 - Fire Fighting Measures

Flash Point: >94 C (201 F)

LEL: n/a UEL: n/a

Extinguishing media (suitable):
Water spray, Carbon dioxide (CO2), Foam, Dry chemical

Fire and explosion hazards:

When burned, the following hazardous products of combustion can occur:
Carbon oxides
Nitrogen oxides
Hydrogen cyanide
Isocyanates
Amines
Hazardous organic compounds
Polymerization is exothermic and can degenerate into an uncontrolled reaction.

Further firefighting advice:

Fight fire from a protected location.
Cool closed containers exposed to fire with water spray.
Closed containers of this material may explode when subjected to heat from surrounding fire. Fire fighting equipment should be thoroughly decontaminated after use.
Do not allow run-off from fire fighting to enter drains or water courses.

Protective equipment:

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

Section 6 - Accidental Release Measures

In case of spill or leak:

Prevent further leakage or spillage if you can do so without risk. Ventilate the area. Avoid generation of vapors. Contain and collect spillage with non-combustible absorbent material such as clean sand, earth, diatomaceous earth or non-acidic clay and place into suitable properly labeled containers for prompt disposal. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Section 7 - Handling and Storage

Handling:

General information on handling:
Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Viscous materials and those supplied as solids at room temperature may require heating to facilitate handling and transfer from their original containers. This product may be heated to a maximum of 49C/120 F for up to 24 hours. Do NOT use localized heat sources such as band heaters or steam. Use hot boxes or hot rooms for heating or melting. Ensure air space (oxygen) is present during product heating/melting. Do not overheat--this may result in an uncontrolled hazardous polymerization. This product should be consumed in its entirety after heating/melting. Avoid re- heating multiple times; this may cause product degradation. If this product freezes, heat it as specified above and mix gently to redistribute the inhibitor. Avoid breathing processing vapor or mist.

Storage

General information on storage conditions:
Keep in a dry, cool place. Store in closed containers, in a secure area to prevent container damage and subsequent spillage. Store out of direct sunlight in a cool well-ventilated place. Keep stabilizer levels constant to avoid explosive polymerization. An air space is required above the liquid in all containers; avoid storage under an oxygen-free atmosphere.

Storage stability - Remarks:
Inhibitor levels should be maintained. The typical shelf-life for this product is 6 months.

Storage incompatibility - General:
Store separate from:
Strong oxidizing agents
Strong reducing agents
Free radical generators
Inert gas
Oxygen scavenger
Peroxides

Temperature tolerance - Do not store below:
-40 °F (-40 °C)

Temperature tolerance - Do not store above:
100 °F (38 °C)

Section 8 - Exposure Controls / Personal Protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Urethane Co Polymer Proprietary	Not Established	Not Established	Not Established
Acrylic monomer 5888-33-5	Not Established	Not Established	Not Established
Titanium dioxide 13463-67-7	TWA: 15 mg/m3 (total dust)	TWA: 10 mg/m3	NIOSH IDLH: 5000 mg/m3 Quebec: TWA: 10mg/m3 Ontario TWAEV: TWA: 10mg/m3

Engineering controls:
Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above).If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Respiratory protection:
Avoid breathing processing vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency
and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Skin protection:
Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Avoid natural rubber gloves. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing immediately and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

Eye protection:
Use good industrial practice to avoid eye contact.

Section 9 - Physical and Chemical Properties

This mixture typically exhibits the following properties under normal circumstances:

Appearance	Viscous liquid
Odor threshold	n/a
pH	n/a
Melting point/freezing point	n/a
Boiling Range	275 to 2900 °C
Flash Point	n/a
Evaporation Rate	Slower than ether
Specific Gravity (SG)	1.079
Lbs VOC/Gallon Less Water	0.00
% Volume Solids	99.98
LEL/UEL	n/a

Odor	Pungent-Styrene Like
Vapor Pressure	n/a
Solubility	n/a
Partition Coeff (n-octonol/water)	n/a
Auto-ignition temperature	n/a
Vapor Density	Heavier then air
Decomposition temperature	n/a
Viscosity	High
Lb / Gal	9.50
Flammability	Combustible

Section 10 - Stability and Reactivity

Materials to avoid:
Strong oxidizing agents
Strong reducing agents
Free radical generators
Inert gas
Oxygen scavenger.
Peroxides

Conditions / hazards to avoid:
This material polymerizes exothermically in the presence of heat, contamination, oxygen free atmosphere, free radicals, peroxides and inhibitor depletion liberating heat. Avoid direct sunlight. Do NOT expose to ultraviolet light.

None

Hazardous decomposition products:
Carbon oxides
Nitrogen oxides
Hydrogen cyanide
Isocyanates
Amines
Acrylates
Hazardous organic compounds

Section 11 - Toxicological Information

Mixture Toxicity

Component Toxicity

Data for Urethane Acrylate (Proprietary)

Acute toxicity

Dermal: Acute toxicity estimate > 5,000 mg/kg.

Other information

The information presented is from a representative material with a similar structure. The results vary depending on the size and composition of the test substance.

Effects due to processing releases of residual monomer:

Possible cross sensitization with other acrylates and methacrylates, Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition.

Data for Acrylic monomer (5888-33-5)

Acute toxicity

Oral:
May be harmful if swallowed. (Rat) LD50 2,300 - 4,890 mg/kg.
Inhalation:
No deaths occurred. (Rat) 1 h Exposure time (saturated vapor)
Eye Irritation:
Causes mild eye irritation. (Rabbit)
Skin Sensitization:
Not a sensitizer. (Guinea pig) No skin allergy was observed
May cause allergic skin reaction. LLNA: Local Lymph Node Assay. (Mouse) Skin allergy was observed.

Repeated dose toxicity

Repeated oral administration to Rat / No adverse systemic effects reported.

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in a laboratory test using: bacteria
Both positive and negative responses for genetic changes were observed in laboratory tests using: animal cells

Developmental toxicity

Reproductive/Developmental Effects Screening Assay. oral (Rat) / No birth defects were observed. (high levels produced toxic effects in the mothers and offspring)

Reproductive effects

Reproductive/Developmental Effects Screening Assay. oral (Rat) / No toxicity to reproduction. / (At high dose levels: increased mortality in the offspring, toxic effects also observed in the parental animals at these doses)

Other information

Possible cross sensitization with other acrylates and methacrylates

Human experience

Skin contact:
Skin: Dermatitis. No skin allergy was observed

Inhalation Skin Contact Eye Contact Ingestion

Effects of Overexposure

None

Section 12 - Ecological Information

Component Ecotoxicity

Chemical Fate and Pathway

Data on this material and/or its components are summarized below.

Data for: Acrylic monomer (5888-33-5)

Biodegradation:
Readily biodegradable. (28 d) biodegradation 73 %

Octanol Water Partition Coefficient:
Log Pow 4.21

Ecotoxicology

Data on this material and/or its components are summarized below.

Data for Acrylic monomer (5888-33-5)

Aquatic toxicity data:
Very toxic. Danio rerio (zebra fish) 96 h LC50 0.704 mg/l

Aquatic invertebrates:
Very toxic. Daphnia magna (Water flea) 48 h EC50 1 mg/l

Algae:
Toxic. Pseudokirchneriella subcapitata (green algae) 72 h IC r50 4.2 mg/l
Toxic. Pseudokirchneriella subcapitata (green algae) 72 h ErC50 1.98 mg/l

Chronic toxicity to aquatic invertebrates:
Very toxic. semi-static test / Daphnia magna (Water flea) 21 d NOEC (reproduction) 0.092 mg/l

Section 13 - Disposal Considerations

Waste disposal:
Disposal via incineration is recommended. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

Take appropriate measures to prevent release to the environment.

Section 14 - Transport Information

US Department of Transportation (DOT): not regulated

International Maritime Dangerous Goods Code (IMDG): not regulated

International Aviation Transportation Authority (IATA): not regulated

Section 15 - Regulatory Information

Additional regulatory listings, where applicable.

Country	Regulation	All Components Listed

EU Risk Phrases

Safety Phrase

Toxic Substances Control Act (TSCA): All chemicals except those listed below appear in the Toxic Substances Control Act Chemical Substance Inventory:

None

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act, and Title 40 of the Code of Federal Regulations, part 372.

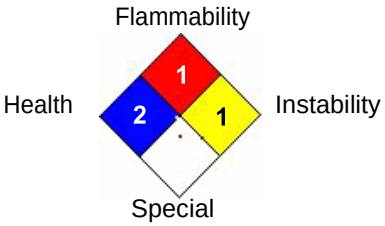
Section 16 - Other Information

Hazardous Material Information System (HMIS)

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

HMIS & NFPA Hazard Rating Legend
*** = Chronic Health Hazard**
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

National Fire Protection Association (NFPA)



The technical information presented here is believed to be accurate. We rely on the information provided to us from our raw material suppliers to develop this S.D.S. As our suppliers update their information, we will provide an updated S.D.S. at that time. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or process. We assume no responsibility for losses or damage, direct or indirect, as a result of its use. Raw material supplier S.D.S.'s for individual components are available upon request.

Reviewer Revision

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