



SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Envelo-Seal™ 0.5 OC Synergy Series

Component: “B”

Company: Specialty Products, Inc. (SPI)

2410 - 104th St Ct S, Ste D
Lakewood, WA 98499

Phone: 253.588.7101

Toll Free: 800.627.0773

Fax: 253.588.7196

EMERGENCY CONTACT: For Spills, Leaks, Fire or Exposure call **CHEMTREC**

Toll Free: 800.424.9300

International Calls: 703.527.3887

Fax: 913.321.1490

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<u>Name</u>	<u>CAS#</u>	<u>% W</u>	<u>Exposure Limits</u>
Tris-(2-chloroisopropyl)-phosphate	13674-84-5	20 - 30	
Surfactant	Trade Secret	7 - 13	
Bis (2-dimethylaminoethyl)ether (BDMAEE)	3033-62-3	1 - 5	
2-(2-dimethylamino)ethoxy)Ethanol	1704-62-7	1 - 5	

SECTION 3: HAZARDS IDENTIFICATION

OSHA/HCS Status: This material is considered Hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency Overview: **WARNING!** Color: Yellow Form: liquid viscous **Odor:** Amine, ammoniacal.
Use cold water spray to cool fire exposed containers to minimize the risk of rupture. May cause nausea or dizziness. Causes respiratory tract irritation. Causes skin irritation. Causes eye irritation. May cause a temporary fogging of the eyes. When this product is sprayed, a full-face or hood-type supplied air respirator is required.Section 3 Notes: **[Read the entire MSDS for a more thorough evaluation of the hazards.](#)**

SECTION 4: FIRST AID MEASURES

Eye Contact: Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects. Corrosive with symptoms of reddening, tearing, swelling, burning, and possible permanent damage. Prolonged vapor contact may cause conjunctivitis.



In case of contact, flush eyes with plenty of water for at least 15 minutes. Call a physician immediately.

Skin Contact:	May cause irritation with symptoms of reddening and itching. Slightly toxic by skin absorption. Corrosive with symptoms of reddening, itching, swelling, burning, and possible permanent damage. Prolonged or repeated skin contact may cause dermatitis with symptoms of red, itchy, dry skin. In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention.
Ingestion:	May be harmful if swallowed. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Moderately toxic by ingestion. Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs). May cause liver damage. May cause kidney damage. If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.
Inhalation:	Acute Inhalation: Causes respiratory tract irritation with symptoms of coughing, sore throat, and runny nose. May cause lung damage. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

Flash Point:	>200°F (>93.33°C)
<u>Extinguishing Media:</u> Suitable:	Carbon dioxide (CO ₂), dry chemical, foam, and water spray for large fires.
Special Fire Fighting Procedures	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.
Unusual Fire and Explosion Hazard:	The reaction of this product with polymeric MDI (“A” side) will release heat (3.g., it is an exothermic reaction). Thus, spraying foam too thickly in a single lift, or not allowing sufficient time between lifts, can result in excessive heat generation to the point where the foam may char, smolder, or burn. Refer to the appropriate Specialty Products, Inc. technical data sheet for application instructions.
Special Protective Equipment for Firefighters:	Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.



SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:	For major spills call CHEMTREC Toll Free 1.800.434.9300 or for International call 1.703.527.3887.
Personal Precautions:	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
Spill and Leak Procedures	Evacuate and keep unnecessary people out of the spill area. Remove ignition sources. Notify management. Put on protective equipment. Control source of the leak. Ventilate. Contain the spill. Cover spill with inert material (e.g. dry sand or earth) and collect for proper disposal.

SECTION 7: HANDLING AND STORAGE

General:	Ideal storage temperature maximum is 122°F (50°C). Handling and storage should be in accordance with Local, State/Provincial, or Federal regulations.
Handling/Storage Precautions:	In accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Keep container closed when not in use. Material is hygroscopic and may absorb small amounts of atmospheric moisture. If contamination with isocyanates is suspected, do not reseal containers. Do not get on skin or clothing. Do not get in eyes. Do not breathe vapours or spray mist.
Storage Period:	6 Months

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

When this product is heated or spray applied, amine vapors can be released.
Consult local authorities for acceptable exposure limits.

Bis (2-dimethylaminoethyl)ether (BDMAEE) (3033-62-3)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.05 ppm

US. ACGIH Threshold Limit Values

Short Term Exposure Limit (STEL) 0.15 ppm

US. ACGIH Threshold Limit Values

Skin designation: Can be absorbed through the skin.

Industrial Hygiene/Ventilation Measures: When handling this product, ventilation of the work area is recommended.

Eye Protection: Eye protection will be provided by the full-face or hood-type air supplied respirator as mentioned above in the respiratory protection section. When handling liquid product, chemical safety goggles or safety glasses with side shields are required.



Skin Protection:	A disposable full body suit (e.g., Tyvek, Kleenguard, etc.) with attached hood and disposable over-boots are required. When handling liquid product, wear cloth work clothing including long pants and long-sleeved shirts. If the potential for splash to the body exists, impermeable protective clothing is recommended.
Respiratory Protection:	A full-face or hood-type supplied air respirator operated in the positive pressure or continuous flow mode is required. For exterior spray applications where the use of supplied air respiratory protection may create a safety hazard (e.g., roof applications), an air purifying respirator with combination organic vapor/particulate (P100) cartridges may be substituted for a supplied air respirator. When handling the liquid product, particularly if heated or in a confined area, an air purifying respirator with combination organic vapor/particulate (p100) cartridges is recommended. The respiratory protection selected must comply with the requirements set forth in OSHA’s Respiratory Protection Standard (29 CFR 1910.134). When APRs are used, (a) the cartridges must be equipped with end-of-service life indicators (ESLI) certified by NIOSH, or (b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program.
Hands:	Fabric gloves coated in nitrile, neoprene, butyl, or PVC are recommended. When handling liquid product, nitrile, neoprene, butyl, or PVC gloves recommended.
Additional Protective Measures	Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

General Appearance Information

Physical State:	Liquid
Appearance:	Viscous
Color:	Yellow
Odor:	Amine, ammoniacal
PH:	8.5 - 10.5
Boiling Point:	Greater than >300°F (149°C)
Freeze Point:	Less than <32°F (<0°C)
Flash Point:	>200°F (93.33°C)
Solubility: (water)	Partially soluble
Specific Gravity: (H ² O=1)	1.11 - 1.13 lbs/gal.
Viscosity, Dynamic:	165 - 180 cP @ 77°F (25°C)

SECTION 10: STABILITY AND REACTIVITY

Stability and Reactivity:	The product is stable.
Incompatibility (Materials to Avoid):	Oxidizing agents, Isocyanates
Hazardous Reactions:	Hazardous polymerization does not occur. The reaction of this product with polymeric MDI (“A” side) will release heat (e.g., it is an exothermic reaction). Thus, spraying foam too thickly in a



single lift, or not allowing sufficient time between lifts can result in excessive heat generation to the point where the foam may char, smolder, or burn. Refer to the appropriate Specialty Products, Inc. technical datasheet for application instructions.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity Data: Tris-(2-chloroisopropyl)-phosphate

<u>Toxicity</u>	<u>Test</u>	<u>Result</u>		
Acute Oral Toxicity	LD50	632 mg/kg		Rat
Acute Inhalation Toxicity	LC50	17,800 mg/l	Aerosol, 1 hour	Rat, male/female
Acute Dermal Toxicity	LD50	>5,000 mg/kg		Rabbit, male/female
Skin Irritation		No skin irritation		Human Patch Test
		No skin irritation		Rabbit
Eye Irritation		Mild eye irritation	24 hours	Rabbit, Draize
		No eye irritation		Rabbit
Sensitization	Maximization (GPMT)	Non-sensitizer	Dermal	Guinea Pig
	Patch Test	Non-sensitizer	Dermal	Human
Repeated Dose Toxicity	NOAEL	36 mg/kg	Oral	Rat, male

Mutagenicity Genetic Toxicity in Vitro
 Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without
 Positive and negative results were reported
 Mammalian cell - gene mutation assay: positive (Mouse lymphoma cells (I5178Y/TK),
 Metabolic activation: with)
 Positive and negative results were reported

Toxicity to Reproduction Fertility Other method, inhalation, daily, (rat, male)
 Reproductive effects observed at doses tested. No fetotoxicity observed at doses tested.

Toxicity Data for Surfactant

<u>Toxicity</u>	<u>Test</u>	<u>Result</u>		
Acute Oral Toxicity	LD50	1,000 - 1,700 mg/kg		Rat
Acute Dermal Toxicity	LC50	1.4 - 3 mg/kg		Rabbit
Skin Irritation		Mild skin irritation		Rabbit
Eye Irritation		Severley irritation		Rabbit
Sensitization		Non-sensitizer	Dermal	Human
Repeated Dose Toxicity	NOAEL	40 mg/kg	Oral	Dog
	NOAEL	200 mg/kg	Oral	Rat
Carcinogenicity	2 years, daily	No Carcinogenic effects	Oral	Rat

Toxicity to Reproduction/Fertility Three generation study, oral, (Rat, Male/Female) NOAEL (parental): 200 ppm, NOAEL (F1): 200 ppm,
 No effects on Reproductive parameters observed at doses tested.
 Other method, oral, (Rat) NOAEL (parental): 2000 ppm.

Developmental Toxicity/Teratogenicity Rat, oral, NOAEL (teratogenicity): 200 ppm, NOAEL (maternal): 200 ppm
 Fetotoxicity seen only with maternal toxicity. No Teratogenic effects observed at doses tested.



**Toxicity Data for Tetrabromophthalate Diol**

<u>Toxicity</u>	<u>Test</u>	<u>Result</u>	
Acute Oral Toxicity	LD50	10,000 mg/kg	Rat
Acute Inhalation Toxicity	LC50	>0.008 mg/l	Rat
Acute Dermal Toxicity	LD50	>20,000 mg/kg	Rat
Skin Irritation		Mild skin irritation	Rabbit
Eye Irritation		Mild eye irritation	Rabbit

Mutagenicity Genetic Toxicity in Vitro:
Ames: negative

Toxicity Data for Polyether Polyol

<u>Toxicity</u>	<u>Test</u>	<u>Result</u>		
Acute Oral Toxicity	LD50	4,000 mg/kg		Rat
Acute Inhalation Toxicity	LC50	< 200 mg/3	1h	Rat (estimated value)
Acute Dermal Toxicity	LD50	<2,000 mg/kg		Rabbit (estimated value)
Skin Irritation		Non-irritating		
Eye Irritation		Non-irritating		

Toxicity Data for Bis (2-dimethylaminoethyl) ether (BDMAEE)

<u>Toxicity</u>	<u>Test</u>	<u>Result</u>		
Acute Oral Toxicity	LD50	571 mg/kg		Rat
Acute Inhalation Toxicity	LC50	117 ppm	6 hours	Rat
Acute Dermal Toxicity	LD50	280 uL/kg		Rabbit
	LD50	238 - 750 mg/kg		Rabbit
Skin Irritation		Severely irritating	24 hour	Rabbit Draize
Eye Irritation		Severley irritating		Rabbit Draize

Developmental Toxicity/Teratogenicity Rabbit, Femail, Dermal
No Teratogenic effects observed at doses tested.

Toxicity Data for 2-(2-(dimethylamino)ethoxy)Ethanol

<u>Toxicity</u>	<u>Test</u>	<u>Result</u>		
Acute Oral Toxicity	LD50	2,000 - 5,000 mg/kg		Rat
Acute Dermal Toxicity	LD50	1,000 - 2,000 mg/kg		Rabbit
Skin Irritation		Corrosive		Rabbit
Eye Irritation	2 years, daily	Corrosive		Rabbit

Toxicity Data for Dipropylene Glycol

<u>Toxicity</u>	<u>Test</u>	<u>Result</u>		
Acute Oral Toxicity	LD50	5,000 mg/kg		Rat
Acute Inhalation Toxicity	LC0	6 - 8 mg/l	Aerosol 8 hours	Rat
Acute Dermal Toxicity	LD50	5,000 mg/kg		Rabbit
Skin Irritation		Slightly irritating	24 hours	Rabbit
Eye Irritation		Non-irritating		Rabbit
Sensitization	Maximization test	Non-sensitizer	Dermal	Human



Repeated Dose Toxicity	NOAEL	5%	77 days Oral	(Magnusson/Ligmann) Rat
Mutagenicity	Genetic Toxicity in Vitro: Ames: Negative results were reported in various in vitro studies. (Salmonella typhimuium, Metabolic activation: with/without)			
Toxicity to Reproduction/Fertility	Fertility Screening, oral, daily, (rabbit, female) NOAEL (parental): 1,200 mg/kg No effects on Reproductive parameters observed at doses tested.			
Developmental Toxicity/Teratogenicity	Rat, female, oral, gestation, daily, NOAEL (teratogenicity): 5,000 mg/kg, NOAEL (maternal): 800 mg/kg, No effects on Reproductive parameters observed at doses tested. Rabbit, female, oral, gestation, daily, NOAEL (teratogenicity): 1,200 mg/kg, NOAEL (maternal): 1200 mg/kg. No fetotoxicity observed at doses tested.			

SECTION 12: ECOLOGICAL INFORMATION

Ecological Data for Tris-(2-chloroisopropyl)-phosphate

Biodegradation

Aerobic, 0%, Exposure time: 28 Days, Not readily biodegradable

Bioaccumulation

Carp, Exposure time: 42 Days, approximately 0.8 - 2.8 BCF

Accute and Prolonged Toxicity to Fish

LC50: approximately 85 mg/l (Gluegill (Lepomis macrochirus), 96 hours)

LC50: 51 mg/l (Fathead minnow (Pimephales promelas), 96 hours)

LC50: 30 mg/l (Guppy(Poecilia reticulata), 96 hours)

Acute Toxicity to Aquatic Invertebrates

EC50: approximately 131 mg/l (Water flea (Daphnia magna), 48 hours)

Toxicity to Aquatic Plants

EC50: 45 mg/l, End Point: biomass (Green algae (Scenedesmus subspicatus), 72 hours)

EC50: 41 - 55 mg/l, End point: biomass (Green algae(Selenastrum capricornutum), 96 hours)

Toxicity to Microorganisms

EC50: 295 mg/l, (Photobacterium phosphoreum, 30 minutes)

EC50: 784 mg/l, (Activated sludge micororganizms, 3 hours)

Ecological Data for Surfactant

Biological Oxygen Demand (BOD)

11 days - 23%

10 days, 45 - 48%

Theoretical Biological Oxygen Demand (ThBOD)

2,300 mg/g



Acute and Prolonged Toxicity to Fish

LC50: 5 - 7.3 mg/l (Fathead minnow (Pimephales promelas), 96 hours)

Acute Toxicity to Aquatic Invertebrates

LC50: 7.5 - 14.7 mg/l (Water flea (Daphnia magna), 48 hours)

Toxicity to Microorganisms

IC50: >1,000 mg/l, (Other bacteria, 17 hours)

Ecological Data for Tetrabromophthalate Diol

Acute and Prolonged Toxicity to Fish

LC50: 12 mg/l (Bluegill (Lepomis macrochirus), 96 hours)

Ecological DATA for Polyether Polyol

Acute and Prolonged Toxicity to Fish

LC50 Greater than 100 mg/l (Other fish, 96 hours)

Based on similar product.

Ecological DATA for Dipropylene Glycol

Biodegradation

Aerobic, 16% Exposure time: 28 Days

Aerobic, 100%, Exposure time: 1 Days

Biological Oxygen Demand (BOD)

5 Days, 92,268 mg/l

Chemical Oxygen Demand (COD)

1,840 mg/g

Theoretical Biological Oxygen Demand (THBOD)

0.49

Bioaccumulation

Carp, Exposure time: 42 Days, 0.3 - 1.4 BCF

Acute and Prolonged Toxicity to Fish

LC50:>5,000 mg/l (Goldfish (Carassius auratus), 24 hours)

Toxicity to Microorganisms

EC10: 15,400 mg/l, (Pseudomonas putida, 16 hours)

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Waste disposal should be in accordance with existing federal, state and local environmental control laws.



Empty Container Precautions Recondition or dispose of empty container in accordance with governmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

EMERGENCY CONTACT: For Spills, Leaks, Fire or Exposure call **CHEMTREC**
Toll Free: 800.424.9300
International Calls: 703.527.3887

Non-Regulated DOT; IMDG; ICAO/IATA

SECTION 15: REGULATORY INFORMATION

United States Federal Regulations

OSHA Hazcom Standard Rating:	Hazardous
US Toxic Substances Control Act:	Listed on TSCA Inventory
US EPA CERCLA Hazardous Substances (40 CFR 302):	Components: None
SARA Section 311/312 Hazard Categories	Acute Health Hazard, Chronic Health Hazard
US EPA Emergency Planning & Community Right-To-Know ACT (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):	Components: None
US EPA Emergency Planning & Community Right-To-Know ACT (EPCRA) SARA Title III Section 346 Toxic Chemicals (40 CFR 372.65, Supplier Notification Required):	Components: None
US EPA Resource Conservation and Recovery Act (RCRA) Composite List Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):	If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
20 - 30%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
>=1%	Trade secret component	CAS# is a trade secret
>=1%	Polyether Polyol	CAS# is a trade secret
7 - 13%	Surfactant	CAS# is a trade secret
>=1%	Tetrabromophthalate Diol	77098-07-8
>=1%	Dipropylene Glycol	25265-71-8

California Prop 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.





This product has been classified according to the hazard criteria of the CFR and the MSDS contains all the information required by the CFR.

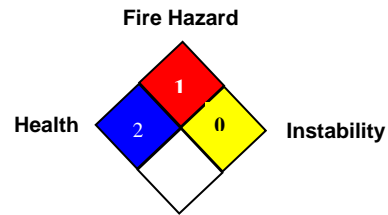
SECTION 16: OTHER INFORMATION

Label Requirements: IRRITATING TO EYES AND SKIN.
HARMFUL IF SWALLOWED.
IRRITATING TO RESPIRATORY TRACT.

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.)

Health	2
Fire Hazard	1
Reactivity	0

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)



For Your Protection: The information and recommendations in this publication is to the best of our knowledge, reliable. The toxicity and risk characteristics of products made by SPI will necessarily differ from the toxicity and risk characteristics that occur when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors. The user is responsible to comply with all applicable federal, provincial or municipal laws and regulations. SPI MAKES NO WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Preparation Information: This MSDS supersedes ALL previous MSDS versions.