Odyssey Nail Systems MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHEMICAL NAME: Thymol Solution

PRODUCT NAME: 2.5 % Thymol Solution

TRADE NAME/PRODUCT CODE: **Pre Prime**

CCS PART NUMBER: A10039 and A100040

PRODUCT USE: Organic Process Chemical

MANUFACTURER: Odyssey Nail Systems
ADDRESS: 6498 Wilcrest Dr
Houston, TX 77072

24 HR. EMERGENCY TELEPHONE: CHEMTREC: 1-800-424-9300

PREPARED BY: C. J. Bruner, HEALTH & SAFETY DEPARTMENT
PHONE: 1-610-497-9000 During Business Hours
1-610-497-9000, Then Press 6 At All Other Times

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SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

FOR MIXTURE:

ITEM	CHEMICAL NAME	CAS NUMBER:	WT/WT %
01	Ethyl Alcohol	64-17-5	60.0-100.0
02	Methyl Alcohol	67-56-1	1.0-5.0
03	Isopropyl Alcohol	67-63-0	1.0-5.0
04	Thymol	84-66-2	1.0-5.0
05	Alpha-Tocopherol	200-412-2	0.1-1.0

	ACGIH		OSHA		Company	
ITEM	TLV-TWA	TLV-STEL	PEL TWA	PEL CEILING	Recommendation	SKIN
01	100 ppm	NE	100 ppm	NE	100 ppm	NE
02	NE	NE	NE	NE	100 ppm	NE
03	NE	NE	NE	NE	NE	NE
04	5 mg/m^3	NE	5 mg/m^3	NE	5 mg/m^3	NE
05	NE	NE	NE	NE	NE	NE

See Section 16 for Abbreviations.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

WARNING: For Mixture:	POISON! DANGER!	May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Vapor Harmful. Flammable. Effects Central Nervous System. May cause blindness. Cannot be made not poisonous.
For Ethyl Alcohol:		
Acute Hazards:	Eyes:	Can cause irritation. Splashes may cause temporary pain and blurred vision.
	Ingestion:	May cause CNS depression, nausea, gastritis, intoxication, vomiting, diarrhea, blindness and in acute cases cause death.
	Inhalation:	May cause headaches, drowsiness, lassitude, loss of appetite, the ability to concentrate and irritation of the throat.
	Skin:	May cause irritation, cracking or flaking due to dehydration and defatting action.
Chronic Hazards:	Exposure:	May result in irritation of mucous membranes, headaches and/or symptoms of CNS depression such as drowsiness and lack of concentration. Excessive long-term exposure may also produce liver damage. Continued ingestion could result in blindness.
Conditions Aggravated by Exposure:		Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.
For Methyl Alcohol:		
Acute Hazards:	Eyes:	May cause irritation. Continued exposure may cause lesions.
	Ingestion:	Toxic, symptoms parallel inhalation. Can intoxicate and cause blindness. Usual fatal dose is 100-125 milliliters.
	Inhalation:	Slight irritant to mucous membranes. Toxic effects exerted on nervous system, particularly the optic nerve. Once absorbed into the body, it is very slowly eliminated. Symptoms of overexposure may include headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma and death. A person may get better then get worse again up to 30 hours later.
	Skin:	A defatting agent, may cause skin to become dry and cracked. Skin absorption may occur, symptoms may parallel inhalation exposure.
Chronic Hazards:	Eyes:	Marked impairment of vision has been reported.
	Skin:	Repeated or prolonged exposure may cause irritation.
Aggravation of Pre-existing Conditions:		Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

SECTION 3 - HAZARDS IDENTIFICATION CONTINUED

EMERGENCY OVERVIEW CONTINUED:

For Isopropyl Alcohol:

Acute Hazards:	Eyes:	Vapors cause irritation. Splashes cause severe irritation, possible corneal burns and eye damage.
	Ingestion:	Can cause drowsiness, unconsciousness, and death. Gastrointestinal pain, cramps, nausea, vomiting, and diarrhea may also result. The single lethal dose for a human adult is about 250 milliliters (8 ounces).
	Inhalation:	Vapors irritate the respiratory tract. Exposure to high concentrations has a narcotic effect, producing symptoms of dizziness, drowsiness, headache, staggering, unconsciousness and possibly death.
	Skin:	May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.
Aggravation of Pre-existing Conditions:		Persons with pre-existing skin disorders or impaired liver, kidney or pulmonary function may be more susceptible to the effects of this agent. May irritate eyes, skin and respiratory tract.
For Thymol:	Eyes:	Irritating.
	Inhalation:	Vapor is irritating to throat and lungs.
	Ingestion:	May cause serious health effects if swallowed.
	Skin:	Irritating.
For Alpha-Tocopherol:		
	Eyes:	May cause irritation.
	Ingestion:	May be harmful.
	Inhalation:	May be harmful.
	Skin:	May cause irritation.

CARCINOGENICITY: Isopropyl Alcohol is not classifiable as a human carcinogen by IARC. Alcoholic beverages have been determined to be carcinogenic to humans by IARC. Ethyl Alcohol is not classified as a human carcinogen by ACGIH. Chronic Ethyl Alcohol consumption has been linked to liver cancer. All other components are not listed as carcinogens by ACGIH, IRAC or NTP.

PRIMARY ROUTES OF ENTRY: Ingestion, Inhalation, Eyes or Skin.

SECTION 4 - FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:

EYES:	Remove contact lenses. Flush with Water for 15 minutes, including under eyelids. Get medical attention immediately.
INGESTION:	Induce vomiting immediately as directed by medical personnel. Never give anything to an unconscious person. Call physician or the Poison Control Center immediately.
INHALATION:	Remove to fresh air. Give artificial respiration is breathing stopped. If breathing difficult give oxygen. Get prompt medical attention.
SKIN:	Wash thoroughly with soap and Water. If irritation occurs, seek medical attention.
CLOTHING:	Remove contaminated clothing and shoes. Wash/clean thoroughly before reuse.
TREATMENT:	Treat symptoms conventionally after decontamination.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT:	13 °C , 55 °F
FLAMMABLE LIMIT, AIR VOL% LOWER:	3.3
UPPER:	19.0
AUTOIGNITION TEMPERATURE:	422 °C , 792 °F
EXTINGUISHER METHOD:	Chemical foam, carbon dioxide, dry chemical. Water may be ineffective.
FIRE AND EXPLOSION HAZARDS:	Fire hazard when exposed to heat or flame,
SPECIAL FIRE FIGHTING PROCEDURES:	Wear self contained breathing apparatus, and full protective gear. Use Water spray to cool containers. Avoid spreading burning liquid with Water used for cooling.
EXPLOSION HAZARD:	Fight fire from protected location.
SENSITIVE TO MECHANICAL IMPACT:	No.
SENSITIVE TO STATIC DISCHARGE:	Yes.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE: Evacuate the area. Eliminate sources of ignition. Use self-contained breathing apparatus and protective clothing. Dike and absorb with inert material. Transfer to proper containers for disposal, use non-sparking tools. Keep spills and cleaning runoffs out of sewers and open bodies of water. Spills on porous surfaces can contaminate the ground water.

SECTION 7- HANDLING AND STORAGE

PRECAUTIONS FOR HANDLING: Observe precautions found on the label. Close container after each use. Ground all metal containers when transferring. Use explosion-proof equipment.

PRECAUTIONS FOR STORING: Store in cool, dry well ventilated place away from heat, sparks, or flames. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

VENTILATION: Use good, local explosion-proof ventilation with a minimum capture velocity of 100 ft/min (30 m/min) at point of monomer release. Refer to Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists. Local exhaust ventilation is preferred since it prevents contamination dispersion into the work area by controlling it at its source.

RESPIRATORY PROTECTION: Use self-contained breathing apparatus when needed.

EYE PROTECTION: Safety glasses or chemical splash goggles.

PROTECTIVE GLOVES: Impervious, nitrile.

OTHER PROTECTIVE EQUIPMENT: Provide eyewash, safety shower and impervious clothing. Protective creams should not be used for protection, but may be used for ease of clean up.

INDUSTRIAL HYGIENE PRACTICES: Wash face and hands thoroughly with soap and water after use and before eating, drinking, smoking or applying cosmetics.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear, colorless liquid, invisible vapor.
ODOR:	Sweet, alcohol-like.
pH:	ND
ODOR THRESHOLD:	ND
BOILING POINT:	78 °C , 173 °F
FREEZING POINT:	-114 °C, -173 °F
VISCOSITY:	ND
SPECIFIC GRAVITY (H_2O=1):	0.79 @ 20 °C , 68 °F
VAPOR PRESSURE:	44.6 mm Hg @ 20 °C , 68 °F
PERCENT VOLATILE W/W%:	100
VAPOR DENSITY (AIR=1):	1.59
EVAPORATION RATE (CCl_4 =1):	1.4
SOLUBILITY IN WATER:	Complete
COEFFICIENT OF WATER/OIL DISTRIBUTION:	ND

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Heat, flames ignition sources, and incompatible materials.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidants, silver salts, acid chlorides, alkali metals, metal hydrides, hydrazine, and many other substances.

HAZARDOUS DECOMPOSITION PRODUCTS: Mainly Oxides of Carbon when burned.

HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X

STABILITY: UNSTABLE: STABLE:X under ordinary conditions

SECTION 11- TOXICOLOGICAL PROPERTIES

TARGET ORGANS:

For Mixture:	None Listed.
For Ethyl Alcohol:	Eyes, Liver, Kidneys, Nerves, Heart and Cardiovascular System.
For Methyl Alcohol:	Eyes, skin, central nervous system, gastrointestinal tract, respiratory system, lungs.
For Isopropyl Alcohol:	Nerves and Kidneys.
For Thymol:	None Listed.
For Alpha-Tocopherol:	None Listed.

SENSITIVITY DATA:

For Mixture:	None Listed.
For Ethyl Alcohol:	
Eye Rabbit:	79 mg.
Eye Rabbit:	100 mg/24H, moderate.
Eye Rabbit:	100 mg/4S rinse, mild.
Eye Rabbit:	500 mg, severe.
Eye Rabbit:	500 mg/24H, mild.
Skin:	Defatting with irritation, dryness and cracking.
Skin Rabbit:	20 mg/24H, moderate.
Skin Rabbit:	400 mg, mild.
For Methyl Alcohol:	
Eye Rabbit:	40 mg, moderate.
Eye Rabbit:	100 mg/24H, moderate.
Skin Rabbit:	20 mg/24H, moderate.
Skin Rabbit:	500 mg/24H, moderate.
For Isopropyl Alcohol:	
Eye Rabbit:	13 mg.
Eye Rabbit:	10 mg, moderate.
Skin Rabbit:	500 mg/24H, mild.

SECTION 11- TOXICOLOGICAL PROPERTIES CONTINUED

MUTAGENICITY DATA:

For Mixture:	None Listed.	
For Ethyl Alcohol:		
Ovary Hamster	Cytogenetic Analysis:	100 ppm.
Fibroblasts Human	Cytogenetic Analysis:	12000 ppm.
Leukocyte Human	Cytogenetic Analysis:	1 pph/72H.
Lymphocyte Human	Cytogenetic Analysis:	1160 g/L.
Lymphocyte Human	DNA Inhibition:	200 mmol/L.
Oral Mouse	Dominant Lethal Test:	3720 mg/kg/3D.
A. Nidulans	Gene Conversion:	5 pph.
Lymphocyte Dog	Micronucleus Test:	400 µmol/L.
Intraperitoneal Mouse	Micronucleus Test:	1240 mg/kg/2D.
A. Nidulans	Microbial Mutation without S9:	20 pph.
E. Coli	Microbial Mutation without S9:	140 gm/L.
S. Cerevisiae	Microbial Mutation without S9:	24 pph.
A. Nidulans	Sex Chromosome Loss:	30 gm/L.
Ovary Hamster	Sister Chromatid Exchange:	3900 mg/L.
Lymphocyte Human	Sister Chromatid Exchange:	500 ppm/72H.
Oral Mouse	Sister Chromatid Exchange:	420 mg/kg/3W.
Oral Mouse	Sperm Morphology:	1500 mg/kg/50D.
For Methyl Alcohol:		
Parenteral Grasshopper	Cytogenetic Analysis:	3000 ppm.
Oral Mouse	Cytogenetic Analysis:	1 gm/kg.
Intraperitoneal Mouse	Cytogenetic Analysis:	75 mg/kg.
S. Cerevisiae	Cytogenetic Analysis:	500 µmol/tube.
Oral Rat	DNA Damage:	10 µmol/kg.
Lymphocyte Human	DNA Inhibition:	300 mmol/L.
S. Cerevisiae	Microbial Mutation without S9:	124 pph.
Lymphocyte Mouse	Microsomal Assay:	7900 mg/L.
For Isopropyl Alcohol:		
Rat Inhalation	Cytogenetic Analysis:	1030 µg/m^3/16W
S. Cerevisiae	Cytogenetic Analysis:	20 mmol/tube.
For Alpha-Tocopherol:		
Intraperitoneal Mouse	Cytogenetic Analysis:	2 gm/kg/4W.
Intravenous Rat	DNA Damage:	27nmol/kg.
Liver Rat	DNA Inhibition:	100 µmol/L.

SECTION 11- TOXICOLOGICAL PROPERTIES CONTINUED

REPRODUCTIVE TOXICITY DATA:

For Mixture: None Listed.

For Ethyl Alcohol:

Intracerebral Rat	TD_{Lo}:	5 mg/kg 1D pre.
Inhalation Rat	TC_{Lo}:	20000 ppm/7H 1-22D preg.
Intraperitoneal Mouse	TD_{Lo}:	5800 mg/kg 10D preg.
Intraperitoneal Mouse	TD_{Lo}:	5800 mg/kg 7D preg.
Intraperitoneal Mouse	TD_{Lo}:	5622 µg/kg 10D preg.
Intraperitoneal Mouse	TD_{Lo}:	4300 mg/kg 10D preg.
Intraperitoneal Rat	TD_{Lo}:	2240 mg/kg 9-12D preg.
Intraperitoneal Rat	TD_{Lo}:	600 mg/kg 8-15D preg.
Intratesticular Dog	TD_{Lo}:	100 mg/kg 1D male.
Intratesticular Rat	TD_{Lo}:	400 mg/kg 1D male.
Intrauterine Rat:	TD_{Lo}:	2400 mg/kg 10D preg.
Intrauterine Woman	TD_{Lo}:	200 mg/kg 5D pre.
Intravenous Rat	TD_{Lo}:	4 gm/kg 6-7D preg.
Intravenous Rat	TD_{Lo}:	3 gm/kg 6-7D preg.
Intravenous Woman	TD_{Lo}:	8 gm/kg 32W preg.
Oral Dog	TD_{Lo}:	21600 mg/kg 1-60D preg.
Oral Dog	TD_{Lo}:	260 gm/kg 1-62D preg.
Oral Dog	TD_{Lo}:	221 gm/kg 1-47D preg.
Oral Guinea Pig	TD_{Lo}:	90 gm/kg 1-68D preg.
Oral Monkey	TD_{Lo}:	130 gm/kg 3-21W preg.
Oral Monkey	TD_{Lo}:	400 mg/kg 2-21W preg.
Oral Monkey	TD_{Lo}:	206 gm/kg 90D pre.
Oral Mouse	TD_{Lo}:	162 gm/kg 11-19D preg.
Oral Mouse	TD_{Lo}:	21 gm/kg 1-21D preg.
Oral Mouse	TD_{Lo}:	5800 mg/kg 7D preg.
Oral Mouse	TD_{Lo}:	75600 mg/kg 5-11 preg.
Oral Mouse	TD_{Lo}:	5500 mg/kg 9D preg.
Oral Mouse	TD_{Lo}:	1680 mg/kg 70D preg.
Oral Pig	TD_{Lo}:	2648 gm/kg 78W pre/1-16W preg.
Oral Rat	TD_{Lo}:	4 gm/kg 13D preg.
Oral Rat	TD_{Lo}:	322 gm/kg 35D male.
Oral Rat	TD_{Lo}:	12 gm/kg 9-12D preg.
Oral Rat	TD_{Lo}:	132 gm/kg 1-22D preg.
Oral Rat	TD_{Lo}:	24 gm/kg 14--16D preg.
Oral Rat	TD_{Lo}:	354 gm/kg 10D post.
Oral Rat	TD_{Lo}:	90 gm/kg 1-15D preg.
Oral Rat	TD_{Lo}:	44 gm/kg 7-17D preg.
Oral Rabbit	TD_{Lo}:	3945 mg/kg 1D pre.
Oral Rabbit	TD_{Lo}:	3750 mg/kg 1D pre.
Oral Woman	TD_{Lo}:	41 gm/kg 41W preg.
Oral Women:	Fetal alcohol syndrome in offspring.	
Oral Women:	Linked to birth defects.	

SECTION 11- TOXICOLOGICAL PROPERTIES CONTINUED

REPRODUCTIVE TOXICITY DATA CONTINUED:

For Methyl Alcohol:		
Inhalation Rat	TC_{Lo}:	20000 ppm/7H 1-22D preg.
Inhalation Rat	TC_{Lo}:	20000 ppm/7H 7-15D preg.
Inhalation Rat	TC_{Lo}:	10000 ppm/7H 7-15D preg.
Intraperitoneal Mouse	TD_{Lo}:	5 gm/kg 5D male.
Oral Rat	TD_{Lo}:	7500 mg/kg 17-19D preg.
For Isopropyl Alcohol:		
Oral Rat	TD_{Lo}:	11340 mg/kg 45D pre.
Oral Rat	TD_{Lo}:	5040 mg/kg 1-20D preg.
Oral Rat	TD_{Lo}:	20160 mg/kg 1-20D preg.
Oral Rat	TD_{Lo}:	32400 µg/kg 26W pre.
Oral Rat	TD_{Lo}:	6480 mg/kg 26W male, 26W pre.
For Alpha-Tocopherol:		
Oral Rat	TD_{Lo}:	7500 mg/kg 1-20D preg.

TOXICITY DATA:

For Mixture:	None Listed.	
For Ethyl Alcohol:		
Inhalation Mouse	LC_{50}:	39 gm/m^3/4H.
Inhalation Rat	LC_{50}:	20000 ppm/10H.
Intraperitoneal Guinea Pig	LD_{50}:	3414 mg/kg.
Intraperitoneal Hamster	LD_{50}:	5068 mg/kg.
Intraperitoneal Mammal	LD_{50}:	4300 mg/kg.
Intraperitoneal Mouse	LD_{50}:	933 mg/kg.
Intraperitoneal Mouse	LD_{50}:	528 mg/kg.
Intraperitoneal Rat	LD_{50}:	3750 mg/kg.
Intraperitoneal Rat	LD_{50}:	3600 mg/kg.
Intraperitoneal Rabbit	LD_{50}:	963 mg/kg.
Intravenous Cat	LD_{Lo}:	3945 mg/kg.
Intravenous Chicken	LD_{Lo}:	8216 mg/kg.
Intravenous Dog	LD_{Lo}:	1600 mg/kg.
Intravenous Mouse	LD_{50}:	1973 mg/kg.
Intravenous Rat	LD_{50}:	1440 mg/kg.
Intravenous Rabbit	LD_{50}:	2374 mg/kg.
Oral Cat	LD_{Lo}:	6000 mg/kg.
Oral Child	LD_{Lo}:	2000 mg/kg.
Oral Dog	LD_{Lo}:	5500 mg/kg.
Oral Guinea Pig	LD_{50}:	5560 mg/kg.
Oral Human	LD_{Lo}:	1400 mg/kg.
Oral Man	TD_{Lo}:	700 mg/kg.
Oral Man	TD_{Lo}:	50 mg/kg.
Oral Man	TD_{Lo}:	1430 :g/kg.
Oral Mouse	LD_{50}:	7500 mg/kg.
Oral Mouse	LD_{50}:	3450 mg/kg.
Oral Rat	LD_{50}:	7060 mg/kg.
Oral Rabbit	LD_{50}:	6300 mg/kg.
Oral Woman	TD_{Lo}:	6300 mg/kg.

SECTION 11- TOXICOLOGICAL PROPERTIES CONTINUED

TOXICITY DATA CONTINUED:

For Ethyl Alcohol Continued:

Subcutaneous Chicken	LD_{Lo}:	5 gm/kg.
Subcutaneous Dog	LD_{Lo}:	6000 mg/kg.
Subcutaneous Frog	LD_{Lo}:	7100 mg/kg.
Subcutaneous Infant	LD_{Lo}:	19440 mg/kg.
Subcutaneous Mouse	LD_{Lo}:	4 gm/kg.
Subcutaneous Mouse	LD_{Lo}:	8285 mg/kg.
Subcutaneous Pigeon	LD_{Lo}:	5 gm/kg.
Skin Rabbit	LD_{Lo}:	20 gm/kg.

For Methyl Alcohol:

Inhalation Cat	LC_{Lo}:	44000 mg/m^3/6H.
Inhalation Human	TC_{Lo}:	86000 mg/m^3.
Inhalation Human	TC_{Lo}:	300 ppm.
Inhalation Monkey	LC_{Lo}:	1000 ppm.
Inhalation Mouse	LC_{Lo}:	50 gm/m^3/2H.
Inhalation Rat	LC_{50}:	64000 ppm/4H.
Intraperitoneal Guinea Pig	LD_{50}:	3556 mg/kg.
Intraperitoneal Hamster	LD_{50}:	8555 mg/kg.
Intraperitoneal Mouse	LD_{50}:	10765 mg/kg.
Intraperitoneal Rat	LD_{50}:	7529 mg/kg.
Intraperitoneal Rabbit	LD_{50}:	1826 mg/kg.
Oral Dog	LD_{Lo}:	7500 mg/kg.
Oral Human	TD_{Lo}:	428 mg/kg.
Oral Human	TD_{Lo}:	143 mg/kg.
Oral Man	TD_{Lo}:	3429 mg/kg.
Oral Monkey	LD_{50}:	7 gm/kg.
Oral Mouse	LD_{50}:	7300 mg/kg.
Oral Rat	LD_{50}:	5628 mg/kg.
Oral Rabbit	LD_{Lo}:	7500 mg/kg.
Oral Woman	TD_{Lo}:	4 gm/kg.
Skin Monkey	LD_{Lo}:	393 mg/kg.
Skin Rabbit	LD_{50}:	15800 mg/kg.
Subcutaneous Mouse	LD_{50}:	9800 mg/kg.
Unreported Route Man	LD_{Lo}:	868 mg/kg.

For Isopropyl Alcohol:

Inhalation Mammal	LC_{50}:	1800 mg/m^3.
Inhalation Mouse	LC_{Lo}:	7000 ppm/40M.
Inhalation Mouse	LC_{Lo}:	12800 ppm/3H.
Inhalation Rat	LC_{50}:	4000 ppm/4H.
Inhalation Rat	LC_{50}:	12000 ppm/8H.
Inhalation Rat	LC_{50}:	16000 ppm/8H.
Intraperitoneal Guinea Pig	LD_{50}:	2560 mg/kg.
Intraperitoneal Hamster	LD_{50}:	3444 mg/kg.
Intraperitoneal Mouse	LD_{50}:	4477 mg/kg.
Intraperitoneal Rat	LD_{50}:	2735 mg/kg.
Intraperitoneal Rabbit	LD_{50}:	667 mg/kg.

SECTION 11- TOXICOLOGICAL PROPERTIES CONTINUED

TOXICITY DATA CONTINUED:

For Isopropyl Alcohol Continued:

Intravenous Cat	LD_{Lo}:	1963 mg/kg.
Intravenous Dog	LD_{Lo}:	5120 mg/kg.
Intravenous Mouse	LD_{50}:	1509 mg/kg.
Intravenous Rat	LD_{50}:	1088 mg/kg.
Intravenous Rabbit	LD_{50}:	1184 mg/kg.
Oral Dog	LD_{50}:	4797 mg/kg.
Oral Guinea Pig	LD_{50}:	2700 mg/kg.
Oral Human	TD_{Lo}:	223 mg/kg.
Oral Human	LD_{Lo}:	3570 mg/kg.
Oral Man	TD_{Lo}:	14432 mg/kg.
Oral Man	LD_{Lo}:	5272 mg/kg.
Oral Mouse	LD_{50}:	2200 mg/kg.
Oral Mouse	LD_{50}:	3600 mg/kg.
Oral Rat	LD_{50}:	5045 mg/kg.
Oral Rabbit	LD_{Lo}:	10 mg/kg.
Skin Rabbit	LD_{50}:	12.8 gm/kg.
Subcutaneous Mammal	LD_{Lo}:	6 mg/kg.
Subcutaneous Mouse	LD_{Lo}:	6000 mg/kg.
Skin Rabbit	LD_{50}:	12800 mg/kg.
Unreported Route Man	LD_{Lo}:	2770 mg/kg.

For Thymol: None Listed.

For Alpha-Tocopherol: None Listed.

SECTION 12 - ECOLOGICAL INFORMATION

AQUATIC TOXICITY:

For Mixture:

For Ethyl Alcohol:

Flathead Minnows	TLm_{96H}:	15gm/L.
Rainbow Trout	TLm_{96H}:	10,400ppm.
Brine Shrimp	LC_{50}:	10,000 ppm/24H.
Fish	LC_{50}:	>100 mg/L/96H.

For Methyl Alcohol:

Fish	TLm_{96H}:	100-1000 ppm.

For Isopropyl Alcohol:

Fish	LC_{50}:	100 mg/L/96H.

ECOLOGICAL DATA:

For Alpha-Tocopherol: No Data Available.

ENVIRONMENTAL FATE:

For Ethyl Alcohol: When released to soil, expected to evaporate quickly. When released to soil, expected to biodegrade to a moderate extent. When released to water, expected to evaporate quickly. When released to water, not expected to significantly bioaccumulate. When released to water, expected to biodegrade quickly. When released to air, expected to be removed to a moderate extent by wet and dry deposition. When released to air, expected to have a half-life between 1-10 days.

SECTION 12 - ECOLOGICAL INFORMATION CONTINUED

ENVIRONMENTAL FATE CONTINUED:

For Methyl Alcohol: When released to soil, expected to evaporate quickly. When released to soil, expected to biodegrade to a moderate extent. When released to water, expected to evaporate quickly. When released to water, expected to have a half-life between 1-10 days. When released to water, expected to biodegrade to a moderate extent. When released to air, expected to rapidly degrade by reaction with photochemically produced hydroxy radicals. When released to air, expected to have a half-life between 10-30 days. When released to air, may be removed to a moderate extent by wet deposition.

For Isopropyl Alcohol: When released to soil, expected to evaporate quickly. When released to soil, expected to biodegrade to a moderate extent. When released to water, expected to evaporate quickly. When released to water, expected to have a half-life between 1-10 days. When released to water, expected to biodegrade to a moderate extent. When released to air, expected to rapidly degrade by reaction with photochemically produced hydroxy radicals. When released to air, expected to have a half-life between 1-10 days. When released to air, may be removed to a moderate extent by wet deposition.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Incinerate liquid and diking material after addition of excess inhibitor, in accordance with Federal, State, and Local regulations.

DISPOSAL OF EMPTY CONTAINERS: Reuse of empty drums or containers is not recommended. Employees should be advised of the potential hazards, due to residual flammable material, associated with empty containers. It is our policy to discourage the reuse of empty containers and to dispose of all empty containers properly, in accordance with Federal, State and Local regulations.

SECTION 14 - TRANSPORTATION

DOT/UN SHIPPING NAME:	ETHANOL, SOLUTION, (Contains Ethanol and Thymol)
DOT/UN CLASS:	3
NA/UN NUMBER:	UN 1170
PACKING GROUP:	II
NAERG:	127
LABEL:	Flammable Liquid
NMFC ITEM #:	42698
SCHEDULE B:	2207.20.0000
IMDG CLASS:	3
EmS:	3-06
CERCLA RQ:	

SECTION 15 - REGULATORY INFORMATION

ITEM	TSCA	EINECS	CERCLA	CAA	CWA	RCRA	SARA 313	MAK
01	X	X						1000 ppm
02	X	X	X			U154	X	200 ppm
03	X	X					X	400 ppm
04	X							

ITEM	AUSTRALIA	CANADA	CHINA	JAPAN	KOREA	PHILIPPINE
01	X	X		X	X	X
02	X	X		X	X	X
03	X	X		X	X	X

ITEM	CA65	FL	MA	MI	MN	NJ	PA	WA
01		X	X		X		X	X
02		X	X		X	X	X	X
03		X	X		X	X	X	X

ATF: ETHYL ALCOHOL MAY BE CONTROLLED BY THE BUREAU OF ALCOHOL, TOBACCO AND FIREARMS.

TSCA: FOR USE IN FDA REGULATED PRODUCTS ONLY

CANADIAN WHMIS: This product has been classified in accordance with the hazardous criteria of the CPR and the MSDS contains all the information required by the CPR.
All of the components of this material are listed on the Canadian DSL.

WARNING STATEMENTS:
T – Toxic
F – Highly Flammable

RISK STATEMENTS:
R11 – Highly Flammable
R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38 – Irritating to eyes, respiratory system and skin.
R40 – Possible risks of irreversible effects.

SAFETY STATEMENTS:
S3 – Keep in a cool place.
S7 – Keep container tightly closed.
S16 – Keep away from sources of ignition – No Smoking.
S20/S21 – When using do not eat, drink or smoke.
S37/39 – Wear suitable gloves and eye/face protection.
S61 – May cause harm to the unborn child.

SECTION 16 - OTHER INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) RATING:

HEALTH:	3
FLAMMABILITY:	4
REACTIVITY:	2
PERSONAL PROTECTIVE EQUIPMENT:	Gloves and Safety Glasses or Chemical Splash Goggles.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD IDENTIFICATION RATING:

HEALTH:	0
FLAMMABILITY:	3
REACTIVITY:	0

ABBREVIATIONS:

NA	Not Applicable	ND	Not Determined
NE	Not Established	CPR	Controlled Products Regulation
ppm	parts per million	G	Gallon
mg	Milligram	L	Liter
gm	Gram	mol	Mole
kg	Kilogram	µ	Micro
mm	Millimeter	p	Pico
Pa	Pascals	c	cento
LC	Lethal Concentration	LD	Lethal Dose
TC	Toxic Concentration	TD	Toxic Dose
BOD	Biological Oxygen Demand	COD	Chemical Oxygen Demand
Lo	Lowest	ThOD	Theoretical Oxygen Demand
TLm	Threshold Limit	IC	Inhibitory Concentration
H	Hours	M	Months
D	Days	Y	Years
W	Weeks		

OSHA Occupational Safety and Health Administration
ACGIH American Conference of Governmental Industrial Hygienist
IARC International Agency for Research for Cancer
TLV Threshold Limit Value
PEL Permissible Exposure Limit
NOEL No Observed Effect Level

SECTION 16 - OTHER INFORMATION

Prepared By: _____ Health, Safety and Environment

Reviewed By: _____ Technical Review

Reviewed By: _____ Senior Company Officer

Issue Date: _____

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