

### SECTION 1. PRODUCT AND COMPANY INFORMATION

**MANUFACTURER:** PACE Technologies  
3601 E. 34<sup>th</sup> St.  
Tucson, AZ 85713

**INFORMATION PHONE:** 520-882-6598

**EMERGENCY PHONE:** CHEMTREC 800-424-9300 (US) Day or night  
International call collect CHEMTREC 202-483-7616

**TRADE NAME:** DIALUBE Blue Lube

**CHEMICAL FAMILY:** Ethanol, Methanol, Methyl isobutyl ketone, 2-Isopropanol, Ethylene glycol

**HMS RATING:** 2=HEALTH      3=FLAMMABILITY      1=REACTIVITY

### SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>CHEMICAL NAME</u>	<u>CAS NO.</u>	<u>%</u>	<u>OSHA</u>		<u>ACGIH</u>	
			TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Ethanol	64-17-5	75-85	1900	-	1800	-
Methanol	67-56-1	0.5-5	200		200	
Methyl isobutyl ketone	108-10-1	0.1-2	50		50	
2-Isopropanol	67-63-0	1-5	985	1225	983	1230
Ethylene glycol	107-21-1	5-15	80	125	10	125
Blue dye	81457-64-9	<0.1				

The product is flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. Organic solvents may be absorbed into the body by inhalation and ingestion and affect the nervous system. The liquid may irritate the skin, the eyes and the respiratory tract.

### SECTION 3. HAZARD IDENTIFICATION

#### EMERGENCY OVERVIEW:

Appearance: liquid, clear blue

**WARNING! FLAMMABLE LIQUID AND VAPOR. MAY AFFECT THEN CENTRAL NERVOUS SSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. HARMFUL IF SWALLOWED. MAY CAUSE**

BLINDNESS. PROLONGED OR REPEATED CONTACT MAY DRY THE SKIN AND CAUSE IRRITATION AND BURNS.

WARNING! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

<b>ROUTES OF EXPOSURE:</b>	Inhalation, Skin absorption, Skin contact, eye contact, Ingestion.
<b>EYE CONTACT:</b>	Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.
<b>SKIN CONTACT:</b>	Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage.
<b>INGESTION:</b>	Initial symptoms in massive dosage parallel alcohol intoxication, progressing to CNS depression, vomiting, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse, and unconsciousness with convulsions. Death from respiratory arrest or cardiovascular collapse may follow. Lethal dose ethylene glycol in humans: 100 ml (3-4 ounces).
<b>INHALATION:</b>	Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8).
<b>AGGRAVATED MEDICAL CONDITION:</b>	Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions), liver, central nervous system, male reproductive system, kidney, pancreas, heart, blood-forming system. Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias. Individuals with preexisting heart disorders may be more susceptible to arrhythmias (irregular heartbeats) if exposed to high concentrations of this material.
<b>SYMPTOMS:</b>	Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may induce: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways). Cough, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), involuntary eye movement, respiratory depression (slowing of the breathing rate), lack of coordination, confusion, irregular heartbeat, anesthesia, respiratory failure, muscle cramps, pain in the abdomen and lower back, Blurred vision, shortness of breath, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), visual impairment (including blindness), coma, and death.
<b>TARGET ORGANS:</b>	This product contains ethanol. Alcoholic beverage consumption has been associated with brain damage, heart damage, and pancreatitis in humans.

The relevance of these findings to ethanol exposure in industrial environments is uncertain. Exposure to lethal concentrations of methanol has been shown to cause damage to organs including liver, kidneys, pancreas, heart, lungs and brain. Although this rarely occurs, survivors of severe intoxication may suffer from permanent neurological damage. Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. This material (or a component) shortens the time of onset or worsens the liver and kidney damage induced by other chemicals. This material (or a component) shortens the time of onset or worsens the neurotoxic effects induced by other chemicals. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: blood abnormalities, pancreatic damage, liver damage, central nervous system damage, testis damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: liver abnormalities, visual impairment.

**CARCINOGENICITY:** This product contains ethanol. The International Agency for Research on Cancer (IARC) has determined that exposure to ethanol through chronic human consumption of alcoholic beverages can cause cancer. The relevance of this finding to ethanol exposure in industrial environments is uncertain.

**REPRODUCTIVE HAZARD:** This product contains ethanol. Alcoholic beverage consumption has been associated with birth defects in humans. The relevance of this finding to ethanol exposure in industrial environments is uncertain. Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain. This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm pregnant animal. The relevance of these findings to humans is uncertain.

**CHRONIC EXPOSURE (Ethylene Glycol):** Repeated small exposures by any route can cause severe kidney problems. Brain damage may also occur. Skin allergy can develop. May damage the developing fetus.

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## SECTION 4. FIRST-AID PROCEDURES

**INHALATION:** If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

**EYE CONTACT:** If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids open. Get medical attention.

**SKIN CONTACT:** Remove contaminated clothing/shoes. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

**INGESTION:** Induce vomiting immediately as directed by medical personnel. Never give anything

by mouth to an unconscious person. Get medical attention.

**NOTES TO  
PHYSICIAN:**

**CONTAINS ETHLENE GLYCOL:** Give sodium bicarbonate intravenously to treat acidosis. Urinalysis may show low specific gravity, proteinuria, pyuria, cylindruria, hematuria, calcium oxalate, and hippuric acid crystals. Ethanol can be used in antidotal treatment but monitor blood glucose when administering ethanol because it can cause hypoglycemia. Consider infusion of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

**HAZARDS:** Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20ug/dl. Methanol is effectively removed by hemodialysis. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2- Swallowing) when deciding whether to induce vomiting.

**TREATMENT:** No information available.

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## SECTION 5. FIRE-FIGHTING MEASURES

**SUITABLE EXTINGUISHING MEDIA:** Carbon dioxide (CO<sub>2</sub>), Dry chemical

**HAZARDOUS COMBUSTION  
PRODUCTS:**

May form: carbon dioxide and carbon monoxide,  
Hydrocarbons, formaldehyde

**PRECAUTIONS FOR FIRE-  
FIGHTING:**

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCRA). Water may be ineffective for extinguishment unless used under favorable conditions by experienced fire fighters. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

**FLAMMABILITY CLASS FOR  
FLAMMABLE LIQUIDS:**

Flammable Liquid Class IB

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

- PERSONAL PRECAUTIONS:** For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
- ENVIRONMENTAL PRECAUTIONS:** Prevent spreading over a wide are (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.
- METHODS FOR CLEANING UP:** Contain spillage, and then collect with non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/ national regulation (see section 13)
- OTHER INFORMATION:** Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/ vapors/ mists with a water spray jet
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### SECTION 7. HANDLING AND STORAGE

- HANDLING:** Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond, and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.
- STORAGE:** Store in a cool, dry, ventilated area, away from incompatible substances.
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### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ETHANOL (64-17-5):**

ACGIH	Time weighted average	1,000 ppm
NIOSH	Recommended exposure limits (REL):	1, 000 ppm 1900 mg/m3
OSHA Z1	Permissible exposure limit	1, 000 ppm 1900 mg/m3

**METHANOL (67-56-1):**

ACGIH	Time weighted average Short term exposure limit	200 ppm 250 ppm
NIOSH	Recommended exposure limits (REL):	200 ppm 260 mg/m3
NIOSH	Short term exposure limit	250 ppm 325 mg/m3
OSHA Z1	Permissible exposure limit	200 ppm 260 mg/m3

**ETHYL ACETATE (141-78-6):**

ACGIH	Time weighted average	400 ppm
NIOSH	Recommended exposure limits (REL):	400 ppm 1400 mg/m3
OSHA Z1	Permissible exposure limit	400 ppm 1400 mg/m3

**METHYL ISOBUTYL KETONE (108-10-1):**

ACGIH	Time weighted average Short term exposure limit	50 ppm 75 ppm
NIOSH	Recommended exposure limits (REL):	50 ppm 205 mg/m3
NIOSH	Short term exposure limit	75 ppm 300 mg/m3
OSHA Z1	Permissible exposure limit	100 ppm 410 mg/m3
ACGIH NIC	Time weighted average Short term exposure limit	30 ppm 75 ppm

**ETHYLENE GLYCOL (107-21-1):**

ACGIH	Short term exposure limit	100 ppm Ceiling (aerosol only)
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**GENERAL ADVICE:** These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

**VENTILATION SYSTEM:** A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**EYE PROTECTION:** Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

**SKIN AND BODY PROTECTION:** Wear protective gloves and clean body-covering clothing.

**RESPIRATORY PROTECTION:** If the exposure limit is exceeded, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 or R95 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. Please note that N series filters are not recommended for this material. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>PHYSICAL STATE:</b> Clear oily liquid	<b>FORM:</b> No data
<b>COLOUR:</b> Clear blue liquid	<b>ODOR:</b> Alcoholic
<b>SPECIFIC GRAVITY:</b> 0.810-0.850	<b>FLASH POINT:</b> 13° C
<b>FLASH POINT:</b> 54.99° F / 12.77° C	<b>EXPLOSIVE LIMITS:</b> 2.2%(V) 19%(V)
<b>SOLUBILITY IN WATER:</b> Yes	<b>pH:</b> N.A.
<b>VAPOUR PRESSURE:</b> 124.25 kPa @77° F/ 25° C	<b>VAPOUR DENSITY:</b> 1.6 (AIR=1)

### SECTION 10. STABILITY AND REACTIVITY

**STABILITY:** Stable

**CONDITIONS TO AVOID:** Avoid heat, sparks, flame and contact with strong oxidizing agents. Do not store or handle in aluminum equipment at temperatures above 120 °F.

**HAZARDOUS DECOMPOSITION:** Carbon dioxide and carbon monoxide, Hydrocarbons, formaldehyde. May produce acrid smoke and irritating fumes when heated to decomposition.

**INCOMPATIBILITY:** Avoid contact with strong oxidizing agents, calcium hypochlorite, hypochlorites, peroxides, sodium, strong acids, strong bases, zinc, strong alkalis, amines, copper, copper alloys, strong mineral acids, strong reducing agents.

Ethylene glycol reacts violently with chlorosulfonic acid, oleum, sulfuric acid, perchloric acid. Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide; causes ignition at 212F(100C) with ammonium dichromate, silver chlorate, sodium chloride and uranyl nitrate.

**HAZARDOUS REACTIONS:** Product will not undergo hazardous polymerization.

**THERMAL DECOMPOSITION:** No Data

**CONDITONS TO AVOID:** Heat, flames, ignition sources, water (absorbs readily) and incompatibles.

### SECTION 11. TOXICOLOGY INFORMATION

**POISON.** May be fatal or cause blindness, if swallowed. Cannot be made nonpoisonous.

**Toxicological Data (Ethylene Glycol):**

Oral rat LD50: 4700 mg/kg; skin rabbit LD50: 9530 mg/kg.  
 Irritation - skin rabbit: 555mg(open), mild; eye rabbit: 500mg/24H, mild.  
 Investigated as a tumorigen, mutagen, reproductive effector.

**Reproductive Toxicity:**

Has shown teratogenic effects in laboratory animals.

Ingredient Category	---NTP Carcinogen---		
	Known	Anticipated	IARC
Ethylene Glycol (107-21-1)	No	No	None

**SECTION 12. ECOLOGICAL INFORMATION****Environmental Fate:**

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material is not expected to significantly bioaccumulate. This material has a log octanol-water partition coefficient of less than 3.0. When released into water, this material is not expected to evaporate significantly. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

**Environmental Toxicity (Ethylene Glycol):**

The LC50/96-hour values for fish are over 100 mg/l.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14. TRANSPORT INFORMATION**

<b>DOT CLASS:</b>	Flammable liquid
<b>DOT PROPER SHIPPING NAME:</b>	Flammable Liquid, N.O.S. (Ethanol, Methanol)
<b>DOT HAZARD CLASSIFICATION:</b>	Hazard Class: 3
<b>PACKING GROUP:</b>	II
<b>UN NUMBER</b>	1993

**SECTION 15. REGULATORY INFORMATION**

<b>CALIFORNIA PROP. 65:</b>	WARNING! This product contains a chemical known in the State of California to cause cancer. ETHANOL ACETALDEHYDE
<b>SARA HAZARD CLASSIFICATION:</b>	Fire Hazard Acute Health Hazard Chronic Health Hazard
<b>SARA 313 COMPONENT(s)</b>	Methanol (67-56-1) – 4% Methyl Isobutyl (108-10-1) – 1% Ketone Ethylene Glycol (107-21-1)

**REPORTABLE  
QUANTITY – PRODUCT**

US . EPA CERCLEA Hazardous substances (40 CFR 302) – 112877 lbs

**REPORTABLE  
QUANTITY –  
COMPONENTS**Methanol (67-56-1) – 5000 lbs  
Ethyl Acetate (141-78-6) – 5000 lbs  
Methyl Isobutyl Ketone (108-10-1) – 5000 lbs  
Ethylene Glycol (107-21-1) – 3000 lbs

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## SECTION 16. OTHER INFORMATION

**NFPA Ratings:** Health: 2 Flammability: 3 Reactivity: 1**Label Hazard Warning:**

POISON! DANGER! MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. VAPOR HARMFUL. FLAMMABLE! AFFECTS CENTRAL NERVOUS SYSTEM. MAY CAUSE BLINDNESS. CANNOT BE MADE NONPOISONOUS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY AFFECT LIVER, BLOOD, REPRODUCTIVE SYSTEM.

**Label Precautions:**

Keep away from heat, sparks and flame.  
Do not breathe vapor.  
Avoid contact with eyes, skin and clothing.  
Keep container closed.  
Use only with adequate ventilation.  
Wash thoroughly after handling.

**Label First Aid:**

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. In all cases call a physician.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

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