MATERIAL SAFETY DATA SHEET: #33 BLUE PRE-COTE LIQUID

SECTION 1 : CHEMICAL PRODUCT & COMPANY INFORMATION

APPLICABLE PART #: LB0304
IDENTITY: # 33 Blue Pre-Cote Liquid
SUPPLIER: Universal Photonics, Inc.
FOR INFORMATION CALL 85 Jetson Lane
CUSTOMER SERVICE CENTRAL ISLIP, NY 11722
DATE PREPARED: May 3, 2013
EMERGENCY TELEPHONE NUMBER: 1.866.519.4752
3-E COMPANY - ACCT # 3665

MATERIAL IDENTIFICATION: A temporary, liquid protective coating, used for precision glass and metal surfaces.

SECTION 2: COMPOSITION INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>Wt. %</th>
<th>TLV-TWA</th>
<th>TLV-STEL</th>
<th>PEL-TWA</th>
<th>PEL-CEILING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Ethyl Ketone</td>
<td>78933</td>
<td>50.0%</td>
<td>&lt;200ppm</td>
<td>&lt;300ppm</td>
<td>200ppm</td>
<td>N.E.</td>
</tr>
<tr>
<td>Methyl Isobutyl Ketone</td>
<td>108101</td>
<td>45.0%</td>
<td>&lt;50ppm</td>
<td>&lt;75ppm</td>
<td>50ppm</td>
<td>N.E.</td>
</tr>
<tr>
<td>Vinyl copolymer</td>
<td>9003229</td>
<td>10.0%</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E</td>
</tr>
<tr>
<td>1-methoxy-</td>
<td>108656</td>
<td>5.0%</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E</td>
</tr>
<tr>
<td>2-propanol acetate</td>
<td>108656</td>
<td>5.0%</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E</td>
</tr>
<tr>
<td>Mineral Spirits</td>
<td>64742887</td>
<td>5.0%</td>
<td>25ppm</td>
<td>N.E</td>
<td>25ppm</td>
<td>N.E</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Highly volatile flammable Dark Blue liquid. Vapors may cause flash fire and explode. Keep container closed. Concentrated vapors can cause respiratory irritation, headache, dizziness, nausea, respiratory depression, and shortness of breath, coma, and central nervous system depression. Warning: Flammable liquid containers in a fire situation may explode without warning.

INHALATION: Avoid prolonged or repeated breathing of vapor. Concentrated vapors can cause respiratory irritation, headache, dizziness, nausea, and possible narcosis. Use ventilation adequate to keep exposures below PEL and TLVs limits.

SKIN CONTACT: Avoid prolonged or repeated contact with skin. Can cause moderate irritation and may de-fat skin. Skin irritant. Wash thoroughly after handling.

EYE CONTACT: Avoid all eye contact. Can cause severe irritation, tearing, and blurred vision.

INGESTION: Do not ingest. MEK has been reported to cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration of MEK into lungs can produce severe lung damage and is a medical emergency.

CHRONIC EFFECTS: Repeated breathing of vapors may reduce lung function. Prolonged or repeated contact may cause dermatitis. Central nervous system and peripheral neuropathy have been reported in industrial settings after high exposures to mixtures of organic substances containing Methyl Ethyl Ketone.

CARCINOGENICITY: Product and its major component, Methyl Ethyl Ketone are not listed as carcinogens by OSHA, IARC nor NTP.
SECTION 4: FIRST AID MEASURES

INHALATION: Remove to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing is difficult. Consult a physician immediately if respiratory symptoms develop.

SKIN CONTACT: Flush skin with plentiful amounts of water for at least 15 minutes. Wash contaminated clothing before reuse. Consult a physician if skin irritation occurs.

EYE CONTACT: Flush with plentiful amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids with fingers. Consult a physician immediately.

INGESTION: Consult a physician immediately. Aspiration hazard, if swallowed do not induce vomiting.

SECTION 5: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES OF METHYL ALCOHOL: Extremely Flammable

FLASH POINT: 25°F
METHOD: Closed Cup
LEL: 1.2%
UEL: 11.5%

NFPA RATING: Fire, 3 Health Hazard, 3 Reactivity,0 Specific Hazard, N/A

EXTINGUISHING MEDIA FOR METHYL ALCOHOL: Carbon dioxide, dry chemical, alcohol foam. Water spray may be used to cool containers exposed to fire and dilute spills to nonflammable mixture. Control fire water run-off.

FIRE FIGHTING INSTRUCTIONS: Wear self-contained breathing apparatus (SCBA) and protective clothing to prevent skin and eye contact. Material in a fire situation has products of combustion, which are toxic.

SECTION 6: ACCIDENTAL RELEASE MEASURES

(See Section 8 for personal protection while cleaning spill.)

SPILL CLEAN UP: Prohibit open flames and spark producing equipment from area. Ventilate area of spill or leak. Contain liquid and prevent discharges to streams and sewer systems. Absorb with inert material, and use non-sparking tools to place in closed containers. Wash and ventilate the area. Dispose of collected material and wash water in accordance with local, state and federal requirements.

SECTION 7: HANDLING & STORAGE

HANDLING: Avoid breathing vapor. Avoid contact with skin, eyes, or clothing. Use personal protective equipment as specified in Section 8. Wash thoroughly after handling.

STORAGE: Store in area away from direct sunlight and do not store in area above 90°F. Outside or detached storage is preferred. Keep containers closed. Keep out of reach of children.
SECTION 8: PERSONAL PROTECTION AND EXPOSURE CONTROLS

ENGINEERING CONTROLS: Keep away from ignition sources such as heat sparks and flame. Vapors of this product can be easily ignited. Use ventilation adequate to keep exposures below recommended limits. If local exhaust ventilation system is used, design the system to handle flammable vapors, including an explosion proof fan. Eyewash stations and safety showers should be easily accessible.

PERSONAL PROTECTIVE EQUIPMENT:

EYE PROTECTION: Chemical splash goggles are required, plus a full face shield to protect against splashes when appropriate.

SKIN PROTECTION: Wear gloves to prevent direct hand contact. Do not use leather or rubber gloves. Use Nitrile Rubber or Viton. Standard work clothes. Standard work shoes. Wash contaminated clothing and dry before reuse. Wear impervious apron if there is potential for chemical splashing.

RESPIRATORY PROTECTION: Wear a NIOSH/MSHA approved respirator following the manufacturer's recommendations if vapor, spray or mist may be generated.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APEXANCE</td>
<td>Blue liquid</td>
</tr>
<tr>
<td>BOILING POINT</td>
<td>175-243˚F (Methyl Ethyl Ketone)</td>
</tr>
<tr>
<td>ODOR</td>
<td>MEK has a sharp pungent odor.</td>
</tr>
<tr>
<td>FREEZING POINT</td>
<td>N/A</td>
</tr>
<tr>
<td>PHYSICAL STATE</td>
<td>Liquid</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>Partially</td>
</tr>
<tr>
<td>PH</td>
<td>Not available</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>(H2O=1) 0.8409</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>85 mmHg at 68˚F (Methyl Ethyl Ketone)</td>
</tr>
<tr>
<td>EVAPORATION RATE: (BUTYL ACETATE)</td>
<td>2.8 (Butyl Acetate)</td>
</tr>
<tr>
<td>VAPOR DENSITY (Air = 1)</td>
<td>2.1 (Methyl Ethyl Ketone)</td>
</tr>
<tr>
<td>Volatiles:</td>
<td>By Wt.</td>
</tr>
<tr>
<td>By Vol.</td>
<td>89.2%</td>
</tr>
<tr>
<td></td>
<td>93.3%</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY & REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Avoid exposure to high temperature and/or moisture, which causes resin agglomeration.

INCOMPATIBILITY: Methyl ethyl ketone is incompatible with oxidizing materials, caustics, amines, ammonia, strong bases, chloroform, chlorosulfuric acid, oleum, potassium-t-butoxide, heat or flame, hydrogen peroxide and nitric acid.

HAZARDOUS DECOMPOSITION: Incomplete combustion may release ketones, aromatics, and carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.
SECTION 11: TOXICOLOGICAL INFORMATION

The toxicological properties of #33 Blue Pre-Cote have not been investigated.

SECTION 12: ECOLOGICAL INFORMATION

The ecological effects of #33 Blue Pre-Cote have not been investigated. Exercise caution to avoid accidental release of this material to aquatic or terrestrial environments.

SECTION 13: DISPOSAL INFORMATION

Properly dispose in accordance with federal, state, and local regulations.

SECTION 14: TRANSPORTATION INFORMATION

**SHIPPING NAME:** #33 Blue Pre-cote, Flammable

**DIVISION:** 3 (Flammable Liquid)

**I.D. NUMBER:** UN1866

**PACKING GROUP:** II

**LABEL CODE:** 3

**SPECIAL PROVISIONS:** B52, T7, T30

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS FOR METHYL ETHYL KETONES:

**LISTED ON FOLLOWING:** CERCLA, RCRA, SARA Title III, Hazardous Air Pollutant

**OTHER REGULATIONS:** Check country, state and local regulations for safety, health, and environmental and reporting requirements.

SECTION 16: OTHER INFORMATION

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