

# Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

KL Lift Off 1600 Series PhotoResist

Negative Lift-Off Photoresist

Revision Date: 02/08/2016


Supplier:

KemLab  
254 W Cummings Park  
Woburn, MA 01801

**For non-emergency information contact:** 781-281-0174

**Emergency telephone Chemtrec: 800-424-9300**

## 2. HAZARDS IDENTIFICATION

<b>Hazard Pictograms:</b>						
<b>Signal Word:</b>	Warning					
<b>Hazard Category:</b>	Flammable Liq Cat 3					
<b>Hazard Statements:</b>	H226: Flammable liquid and vapour					
<b>Precautionary Statements:</b>	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking P233: Keep container tightly closed P240: Ground/bond container and receiving equipment P241: Use explosion-proof electrical/ventilating/light/.../equipment P242: Use only non-sparking tools P243: Take precautionary measures against static discharge P280: Wear protective gloves/protective clothing/eye protection/face protection P403+233: Store in a well ventilated place. Keep container tightly closed P501: Dispose of contents/container in accordance with					
<b>Hazards not otherwise classified:</b>	Not applicable, none known.					

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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Component	CAS-No.	Concentration
Electronic grade propylene glycol monomethyl ether acetate	108-65-6	> 50.0 %
Mixed cresol novolak resin		< 50.0 %
1,3,4,6-Tetrakis(methoxymethyl)glycoluril	17464-88-9	< 4.0 %
Proprietary dye		< 1.0 %
Proprietary Additives		< 1.0 %

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**4. FIRST AID MEASURES**

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**Inhalation:** Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.

**Skin contact:** Wash skin with water. Continue washing for at least 15 minutes. Obtain medical attention if blistering occurs or redness persists.

**Eye contact:** Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

**Ingestion:** Wash out mouth with water. Have victim drink 1-3 glasses of water to dilute stomach contents. Induce vomiting if person is conscious. Immediate medical attention is required. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing.

**Notes to physician:** Treat symptomatically.

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**5. FIRE-FIGHTING MEASURES**

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**Flash point** ca.40 - 46 °C ( 104 - 115.00 °F )

**Suitable extinguishing media:** Use water spray, foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.

**Specific hazards during fire fighting:** This product may give rise to hazardous vapors in a fire. Vapors can travel a considerable distance to a source of ignition and result in flashback.

**Special protective equipment for fire-fighters:** Wear full protective clothing and self-contained breathing apparatus.

**Further information:** Pressure may build up in closed containers with possible liberation of combustible vapors.

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**6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions**

Wear suitable protective clothing.  
Wear respiratory protection.  
Eliminate all ignition sources.

### Environmental precautions

Prevent the material from entering drains or water courses.

Do not discharge directly to a water source.

Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

### Methods for cleaning up

Contain spills immediately with inert materials (e.g., sand, earth).

Transfer into suitable containers for recovery or disposal.

Finally flush area with plenty of water.

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## 7. HANDLING AND STORAGE

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### Handling

Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed.

### Storage

**Storage conditions:** Store in original container. Keep away from heat and sources of ignition.

Storage area should be: cool, dry, well ventilated, out of direct sunlight

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Exposure limit(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Electronic grade propylene glycol monomethyl ether acetate	USA. Workplace Environmental Exposure Levels (WEEL)	TWA	50 ppm

**Eye protection:** Goggles

**Hand protection:** Butyl rubber or nitrile gloves. Other chemical resistant gloves may be recommended by your safety professional.

**Skin and body protection:** Normal work PPE wear.

**Respiratory protection:** Respiratory protection if there is a risk of exposure to high vapor concentrations. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

**Engineering measures:** Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

<b>Form</b>	liquid
<b>Color</b>	Red Amber
<b>Odor</b>	ester-like
<b>pH</b>	neutral
<b>Boiling point/boiling range</b>	146 °C ( 295.00 °F)
<b>Flash point</b>	46 °C ( 104 - 115.00 °F)

Component: **Electronic grade propylene glycol monomethyl ether acetate**

<b>Vapour pressure</b>	3.7 mmHg at 20 °C (68 °F)
<b>Relative vapour density</b>	Heavier than air
<b>Water solubility</b>	insoluble
<b>Relative density</b>	0.97 - 1.03
<b>Evaporation rate</b>	Slower than ether
<b>VOC's</b>	500 - 1000 g/l

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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<b>Hazardous reactions</b>	Stable under normal conditions
<b>Conditions to avoid</b>	Exposure to sunlight. Heat, flames and sparks. contact with incompatible materials
<b>Materials to avoid</b>	Oxidizing agents
<b>Hazardous decomposition products</b>	Combustion will generate:, oxides of carbon, nitrogen oxides (NOx), phenols, Hydrogen fluoride, Aldehydes, acrid smoke and irritating fumes
<b>polymerization</b>	Will not occur

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information on this product or its components appear in this section when such data is available.*

Component: **Electronic grade propylene glycol monomethyl ether acetate**

<b>Acute oral toxicity</b>	LD50 rat 8,532 mg/kg
<b>Acute inhalation toxicity</b>	LC50 rat 6 h 23.49 mg/l
<b>Acute dermal toxicity</b>	LD50 rabbit >5,000 mg/kg

**Toxicity to reproduction**

Dermal teratology testing of this solvent (with less than 3% beta isomer) revealed no maternally toxic, teratogenic or fetotoxic responses in rats or rabbits exposed to concentrations of 1,000 and 2,000 mg/kg per day.

**Mutagenicity**

No significant mutagenic response was observed and the carcinogenic potential of the material is therefore considered to be low.

**Carcinogenicity**

No component known to be carcinogenic

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information on this product or its components appears in this section when such data is available.*

**Ecotoxicity effects**

**Toxicity to fish**

LC50 Fathead minnow (Pimephales promelas) 96 h  
161 mg/l

**Toxicity to aquatic invertebrates**

EC50 Daphnia magna 48 h  
>500 mg/l

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**13. DISPOSAL CONSIDERATIONS**

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**Environmental precautions:** Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

**Disposal**

Dispose in accordance with all local, state (provincial), and federal regulations. Send waste to an approved waste disposal facility. Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way.

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**14. TRANSPORT INFORMATION**

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Proper shipping name: RESIN SOLUTION  
UN-Number: UN 1866  
Hazard Class: 3  
Packing group: III

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## 15. REGULATORY INFORMATION

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### Hazard Rating

	Health	Fire	Reactivity
NFPA	2	2	0

**SARA TITLE III: Section 311/312 Categorizations (40CFR370):** Immediate, delayed, flammability hazard

### SARA TITLE III: Section 313 Information (40CFR372)

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

**US. Toxic Substances Control Act (TSCA):** All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

### California (Proposition 65)

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

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## 16. OTHER INFORMATION

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Prepared by: KemLab  
 Revision Date: 02/08/2016

**Disclaimer:** *The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.*