Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product ID / Name: **CD1777476 - LM LED OPAQUE WHITE MPS**

Recommended Use: **Printing Ink**
Company Name: Zeller+Gmelin Corporation
Address: 4801 Audubon Drive, Richmond, Virginia 23231 USA
Telephone: (800) 84UV INK (800-848-8465)
Email: msds@zeller-gmelin.com
Internet: http://www.zeller-gmelin.com
Emergency Contact: CHEMTREC, (800) 424-9300
CHEMTREC International and Maritime, +1 (703) 527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor:

Color: WHITE
Appearance: Liquid
Odor: Ester Like

LABEL ELEMENTS

GHS-US labeling

HAZARD STATEMENTS

Signal Word: DANGER !

Hazard Pictogram: Irritant Health Hazard Corrosive

H302: Harmful if swallowed
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H318: Causes serious eye damage
H360: May damage fertility or the unborn child

PRECAUTIONARY STATEMENTS

P264: Wash thoroughly with soap and water after handling.
P270: Do not eat, drink, or smoke when using this product.
P272: Contaminated work clothing should be restricted to the workplace. Wash contaminated clothing before reuse.
P280: Wear protective gloves / protective clothing / eye protection / face protection.
IF ON SKIN: Wash thoroughly with soap and water. If skin irritation or rash occurs, seek medical advice /attention.
IF IN EYES: Flush with copious amounts of water for at least 15 minutes, and seek medical advice / attention.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

POTENTIAL HEALTH EFFECTS OF EXPOSURE

Inhalation: Low volatile organic compound (VOC) content makes inhalation problems unlikely at room temperature; however, elevated temperatures and/or aerosol formation may lead to irritation of the lungs.

Skin: Contains materials that may cause moderate skin injury (reddening and swelling). Prolonged contact may cause blister formation and in some cases skin sensitization may occur.

Ingestion: Contains materials that may be slightly toxic.

Eyes: May cause severe pain and irritation upon direct exposure. Risk of permanent damage to eyes.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

CAS # / EC #	Chemical Name	Quantity - %
Trade Secret	Multifunctional acrylate diluent	5 - 20
Trade Secret	Acrylated amine	5 - 20
21245-02-3	Aminobenzoate photoinitiator	1 - 5
57472-68-1	Oxybis(methyl-2,1-ethanediyl) diacrylate	5 - 20

Specific composition and formulation of products are considered trade secrets; however, upon request, specific information may be provided to medical facilities and industrial hygienists. Carcinogens are specifically noted in Section 11 if present. Carcinogen is defined as listed by International Agency for Research on Cancer (IARC), National Toxicology Program (NTP), American Conference of Governmental Industrial Hygienists (ACGIH), or Occupational Safety & Health Administration (OSHA).

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult or persistent symptoms, seek medical assistance / call a physician.

Skin: Wash affected areas thoroughly with soap and warm water. Remove contaminated clothing and footwear without delay. Contaminated clothing must be thoroughly laundered before reuse. Destroy or thoroughly clean contaminated footwear before reuse. Do not remove contaminated clothing or footwear from the workplace.

Ingestion: Consult medical assistance / local poison control center / physician promptly. Never give anything by mouth to an unconscious person. Only induce vomiting at the instruction of a physician.

Eyes: Flush eyes with water for at least 15 minutes and consult medical assistance / physician promptly. Do not rub eyes. Remove contact lens, if present and easy to do. Continue rinsing. This may contain materials that are capable of causing eye injury.

General: In all cases of doubt or when symptoms persist, seek medical attention.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Water spray or fog, carbon dioxide or dry chemical fire extinguishers.

Extinguishing media to avoid: High-pressure water jet as this will spread the fire.

Protective equipment: Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See SDS section 8 (Exposure Controls / Personal Protection)

Special Hazards: Keep containers cool by spraying with water if exposed to fire. During fire, gases hazardous to health may be formed.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear protective clothing, eye protection, respirator, and impermeable boots – refer to Section 8 – Exposure Controls / Personal Protection.

In the event of material release or spillage: Pick up any material with liquid binding or inert absorbent material. Sweep up and place in a waste disposal container. Advise environmental authorities if spillage has entered waterways or drainage system.

7. HANDLING AND STORAGE

Precautionary measures:

Store in closed containers away from heat and open flame.

Store at room temperature, between 68°F - 86°F (20°C-30°C) and not to exceed 95°F (35°C)

Avoid breathing mist.

Avoid exposure to personnel as indicated.

Use in a ventilated area

Wear protective clothing.

Decontaminate area as required.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters – Components with limit values that require monitoring at the workplace.

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

OSHA - PEL or ACGIH - TLV: OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and other exposure limits have not been established for this product.

Exposure Controls

Respiratory Protection:	(Specify Type):	No special precautions needed with adequate ventilation.
	Ventilation:	Local Exhaust: Preferable
		Mechanical (General): Preferable
Protective Gloves:		Solvent-resistant protective gloves if contact is likely. Nitrile rubber recommended.
Eye Protection:		Safety glasses with side shields / splash goggles
Other protective clothing and/or equipment:		Wear impermeable boots if exposure levels warrant.
Work/Hygienic Practices:		Avoid contact with skin and eyes. Wash hands before handling food.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color	WHITE
Physical State (Appearance)	Liquid
Odor	Ester Like
Odor Threshold	N/A
Boiling Point	N/A, decomposes or polymerizes first
Melting Point	N/A
Vapor Pressure (mm Hg)	N/A
Vapor Density	N/A
Viscosity (Kinematic)	N/A
Saturation in Air (% by volume)	N/A
Evaporation Rate (Bu.Ac.=1)	<1
Specific Gravity (Relative Density)	2.66
pH	N/A
Solubility in Water	N/A
Partition Coefficient: n-octanol/water	N/A
Percent Volatile VOC (% by wt.)	<1% w/w
Flash Point	>212°F (>100°C)
Flammability (solid, gas)	N/A
Decomposition temperature	N/A
Auto ignition temperature	N/A

10. STABILITY AND REACTIVITY

Stability:	Stable under normal storage and transportation conditions
Conditions to Avoid:	Exposure to sunlight or other sources of UV radiation, exposure to ionizing radiation. Heat, flames, and sparks. Contact with incompatible materials.
Incompatibility: (Materials to Avoid):	Avoid mixing with vigorous oxidizing materials, peroxides, strong bases and alkalis.
Hazardous Decomposition / By-products:	No hazardous decompositions products are known during normal usage.
Hazardous Polymerization:	High temperatures and/or fire conditions may cause rapid and uncontrolled polymerization.

11. TOXICOLOGICAL INFORMATION

Toxicological information for these products is also found under Section 2, HAZARDS IDENTIFICATION.

The toxicological information on these products has not been fully investigated. Direct contact with this material may cause moderate to severe irritation of the skin, eyes, respiratory and moderate irritation of the gastrointestinal tract. There are no reportable quantities of carcinogenic

substances as defined by IARC, NTP, ACGIH, or OSHA health organizations. A minor component, CAS#21245-02-3, is a Category 1B reproductive toxin (H360) with developmental toxicity.

12. ECOLOGICAL INFORMATION

Toxicity:	The ecological properties of these products have not been fully investigated.
Persistence and Degradability:	Not established
Bio-accumulative Potential:	Not established
Mobility in Soil:	No additional information is available
Other information:	Do not release to the environment. A minor component has been classed as an aquatic toxin. Avoid entry of this product into drains and waterways.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Do not allow product to enter drainage system. Dispose of in accordance with local, State and Federal regulations. Incineration is the preferred method. Contact a professional environmental disposal company in your area. Refer to guidelines in the Resource Conservation & Recovery Act (RCRA).

14. TRANSPORT INFORMATION

Refer to appropriate local, state or national transport regulations for specific requirements.

US DOT:	Not Regulated
Transport Canada:	Not Regulated
Air Transport (ICAO / IATA):	Not Regulated
Sea Transport (IMDG / IMO):	Not Regulated

15. REGULATORY INFORMATION

Inventory Information - TSCA

United States (USA): All components of this product are included on the TSCA Chemical Inventory or are exempt from listing on the TSCA Chemical Inventory.

CERCLA Hazardous Substance List (40 CFR 302.4) Not Applicable

Heavy Metals – Products meet CONEG requirements.

SARA Hazard Notification

Hazard categories under Title III Rules (40 CFR 370)	_X_ Immediate Health (Acute)	_X_ Reactive
Section 311 / 312:	_X_ Delayed Health (Chronic)	__ Fire Hazard
	__ Sudden Pressure Release	__ None

Section 302 Extremely Hazardous Substances: Not Applicable

Section 313 Toxic Chemical(s):

Cyclohexane	CAS# 110-82-7	0.01746%

OSHA Hazard Communication Standard

(29 CFR 1910.1200): _X_ Irritant __ Unstable Reactive

California Proposition 65

Products may contain trace levels of chemicals known to the State of California to cause cancer or reproductive harm. The estimated level of reported Prop 65 components is:

Methyl isobutyl ketone	CAS# 108-10-1	0.0097%
Toluene	CAS# 108-88-3	0.03540888%
1,4-Dioxane	CAS# 123-91-1	0.0002619%
Titanium dioxide	CAS# 13463-67-7	52.14429%
Methanol	CAS# 67-56-1	0.06%
Benzene	CAS# 71-43-2	0.0003492%
Ethylene oxide	CAS# 75-21-8	0.0002619%

Cumene	CAS# 98-82-8	0.00776%
Trace Pb, Cd and/or other metals	CAS# CAS NOT GIVEN	0.00052671%

International Regulations

Chemical Weapons Convention:	Covered products do not contain any component(s) listed under the Chemical Weapons Convention Schedule of Chemicals.
Hazards to the Ozone Layer	Covered products do not contain substances identified as causing damage to the ozone layer, including CFC or HCFC. Reference the Montreal Protocol.
PFC (perfluorinated chemicals)	Covered products do not contain long -chain (PFCs).
R.E.A.C.H.:	Covered products do not contain reportable amounts (>0.1%) of any materials known on the REACH Authorization List (Annex XIV) or the REACH Restricted List (Annex XVII) of substances as issued by the European Chemical Agency (ECHA). Products manufactured in the EU comply with REACH Directive 1907/2006 EC.
SVHC (present):	
Authorization:	None
Restricted:	None
RoHS (Restriction of Hazardous Substances):	Covered products allow for compliance with the current RoHS Directive restricting the use of certain hazardous substances in electrical and electronic equipment, medical devices and monitoring and control instruments, and certain cables. Products are well below the maximum concentration limits of lead (0.1%), mercury (0.1%), cadmium (0.01%), hexavalent chromium (0.1%), polybrominated biphenyls [PBB] (0.1%), polybrominated diphenyl ethers [PBDE] (0.1%) and listed phthalates.

Canada Regulations

Workplace Hazardous Materials Information System:	(WHMIS Classification): This product is not WHMIS controlled.
Domestic Substances List (DSL):	Components are either exempt or listed on the DSL. Exceptions noted below.
Non-Domestic Substances List (NDSL):	Approximately 3% of product components are NDSL listed.
	This product contains components that are not DSL or NDSL listed, 0%.

16. OTHER INFORMATION

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NOTE: The information herein is given in good faith and is believed to be accurate as of the date prepared. No warranty, expressed or implied, is made. It is the responsibility of the user to determine if products are suitable for their applications. This document prepared in accordance with OSHA, 29 CFR 1910.1200(g) and Appendix D. United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), current edition, United Nations. "This is an automatically generated SDS. Should you have a question about content information please contact: msds@zeller-gmelin.com "