Safety Data Sheet

SECTION 1: IDENTIFICATION

SDS Number: 500.4, version 2/7/2019

(a) Product identifier
Gans Item ID: UV15868MF

Gans Description: M/IQ LAM More Flow 1d Yellow

(b) Other means of identification
General description: UV-curing, lithographic printing ink

(c) Recommended use
Product Use: Industrial use only; printing ink for use on lithographic printing press equipped with UV curing lamps.
Restrictions on use: Not for residential use.

(d) Supplier’s details
Manufacturer: Gans Ink and Supply Co, Inc.
Address: 1441 Boyd Street
Los Angeles, CA 90033
Contact Person: Marco Ramos
Telephone: 323-264-2200 x139
Email: MSDS@gansink.com

(e) Emergency telephone numbers:
Chemical spill or physical hazard: Contact the Local Emergency Response Agency 9-1-1 or the Local Fire Department
Ingestion or health hazard: Contact the National Capital Poison Center, Poison Control: 800 222-1222; Poison.org

SECTION 2: HAZARD(S) IDENTIFICATION

(a) Classification
This mixture is hazardous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).
Physical hazards: Not classified as hazardous
Health hazards:
  o Eye Irritation – Category 2A
  o Skin Irritation – Category 2
  o Skin Sensitization - Category 1
  o Carcinogenicity – Category 1B
  o Specific Target Organ Toxicity Single Exposure (STOT SE), Respiratory Tract Irritation – Category 3

Environmental Hazards:
  o Hazardous to the Aquatic Environment, Acute – Category 1
  o Hazardous to the Aquatic Environment, Chronic – Category 1
(b) Label elements
Signal Word: Danger

Hazard Statements:
Causes serious eye irritation; Causes skin irritation. May cause an allergic skin reaction; May cause respiratory irritation; May cause cancer;
Toxic to aquatic life; Toxic to aquatic life with long lasting effects

Precautionary Statements:
Prevention:
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling.

Avoid breathing mist/ vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response:
IF EXPOSED OR CONCERNED: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water and mild soap, and or waterless hand cleaner. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.

Collect spillage.

Storage: Store locked up; Store in a well-ventilated place; Keep container tightly closed.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard Pictograms:

(c) Hazards not otherwise classified
None known

(d) Ingredients of unknown acute toxicity
NA
SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture
TS = Trade Secret (as specified by substance manufacturer)

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS #</th>
<th>Conc. min.</th>
<th>Conc. max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2-oxybis(ethanol)</td>
<td>72162-39-1</td>
<td>20.9%</td>
<td>33.8%</td>
</tr>
<tr>
<td>Acrylated resin</td>
<td>TS</td>
<td>14.9%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic</td>
<td>52408-84-1</td>
<td>15.5%</td>
<td>19.0%</td>
</tr>
<tr>
<td>Polyester acrylate</td>
<td>TS</td>
<td>8.5%</td>
<td>16.5%</td>
</tr>
<tr>
<td>2-[(2,2-bis[[1-oxoallyloxy]methyl]butoxy)methyl]-2-ethyl-1,3-propanediyl diacylate</td>
<td>94108-97-1</td>
<td>8.5%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Esterification product of poly[oxymethyl-1,2-ethanediyl],.alpha,.alpha.'-(2,2-dimethyl-1,3-propanediyl)bis.[omega.-hydroxy- and prop-2-enoic acid]</td>
<td>84170-74-1</td>
<td>1.0%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Pentaerythritol, ethoxylated, esters with acrylic acid</td>
<td>51728-26-8</td>
<td>2.0%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Glycerol propoxylate triacrylate</td>
<td>TS</td>
<td>0.0%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Reactive tertiary amine</td>
<td>TS</td>
<td>5.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Photo initiator, Gans UVP-2044</td>
<td>TS</td>
<td>1.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic acid</td>
<td>52408-84-1</td>
<td>0.7%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Epoxy acrylate oligomer</td>
<td>TS</td>
<td>0.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>4,4’-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid</td>
<td>55818-57-0</td>
<td>0.3%</td>
<td>0.5%</td>
</tr>
<tr>
<td>2-hydroxyethyl acrylate</td>
<td>818-61-1</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>tris(N-hydroxy-N-nitrosophenylaminato-O,O’)aluminium</td>
<td>15305-07-4</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Phosphites</td>
<td>TS</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Pigment</td>
<td>TS</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

(a) Description of first aid measures:

Inhalation: If inhaled: Remove person to fresh air and keep comfortable for breathing.

Skin contact: If on skin: Wash with plenty of water and mild soap, and or waterless hand cleaner. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse.

Eye contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: Rinse mouth.

(b) Most important symptoms and effects, both acute and delayed:

Inhalation: May cause respiratory irritation

Skin contact: Causes skin irritation. May cause an allergic skin reaction

Eye contact: Causes serious eye irritation

Ingestion: May cause cancer;
(c) Indication of any immediate medical attention and special treatment needed:
Symptoms such as dizziness or loss of breath, and burning or pain to eyes or skin may indicate exposure and the need for first aid.

SECTION 5: FIRE – FIGHTING MEASURES

(a) Extinguishing Media:
Suitable extinguishing media: Use CO₂, dry chemical, fire-fighting foam, or water fog extinguishing media
Unsuitable extinguishing media: Do not use water stream. Water stream or spray is OK to cool containers only.

(b) Special hazards arising from the substance or mixture: Thermal decomposition or combustion products may include COₓ, and NOₓ. High pressure my build up in heated containers.

(c) Special protective equipment and precautions for fire-fighters: Wear NIOSH approved self-contained respiratory protective device, and fully protective fire-fighting suit.

SECTION 6: ACCIDENTAL RELEASE MEASURES

(a.i) Personal precautions:
Do not handle until all safety precautions have been read and understood.
No smoking or other sources of ignition near spillage.
Avoid direct contact with spilled material.
Wear all Personal Protection listed in Section 8 before directly contacting spilled material
Ensure there is adequate area ventilation, and avoid excessive inhalation of fumes.

(a.ii) Protective equipment: See Section 8

(a.iii) Emergency procedures: If dangerous conditions exist, contact emergency response personnel, follow emergency procedures, and contact emergency response authorities. Collect spillage.

(b) Methods for containment and cleaning up:
If it is safe to do so, adjust leaking containers to reduce or eliminate the continued release. Wear all Personal Protection listed in Section 8 before directly contacting spilled material. For high viscosity materials, scoop or shovel material into appropriate container for reuse, recycling, or disposal. For low viscosity materials, first surround and then cover spilled material with inert absorbent (vermiculite, or similar). Then scoop or shovel material into appropriate container for reuse, recycling, or disposal.

Residual material can be cleaned with UV blanket wash, acetone, or other press solvent.
Consult your company's spill procedure for details of regulatory restrictions and recommendations.
Do not allow spilled materials, or clean up materials to enter storm drains or natural water ways.

SECTION 7: HANDLING AND STORAGE

(a) Precautions for safe handling:
Wear protective gloves; Wear eye protection and face protection; Wear protective clothing; Avoid breathing mist/ vapors/spray;
Use only outdoors or in a well-ventilated area; Wash hands thoroughly after handling; Contaminated work clothing must not be allowed out of the workplace; Avoid release to the environment.

(b) Conditions for safe storage:
Store locked up; Store in original container and keep containers covered and sealed; Store in cool, dry, well-ventilated place.
Appropriate storage temperature is approximately 7° - 35° C (45° - 95° F).
Incompatibilities: Avoid contact with heat, sources of ignition, sunlight, and strong oxidizers.
SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS #</th>
<th>ppm</th>
<th>mg/m³</th>
<th>8-hour TWA (ST)</th>
<th>STEL (C) Ceiling</th>
<th>Up to 10-hour TWA (ST)</th>
<th>STEL (C) Ceiling</th>
<th>8-hour TWA (ST)</th>
<th>STEL (C) Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No listed hazardous ingredients appear on OSHA Annotated Tables Z-1, Z-2, or Z-3.

(b) Appropriate engineering controls:
Ventilation requirements: Adequate ventilation in accordance with good engineering practice must be provided.
General protective measures: Ensure that eye flushing /eye wash stations, and hand washing areas are accessible.

c) Personal protective equipment:
Inhalation: Avoid breathing mist/ vapors/spray. Where mist or aerosol is present, an organic vapor respirator is recommended.

Skin Contact: Wear protective gloves/protective clothing. Contaminated work clothing must not be allowed out of the workplace. Neoprene or nitrile gloves are recommended. PVC gloves are not compatible. Always wear long sleeves and where exposure potential is high, a neoprene or other chemical resistant apron is recommended.

Eye Contact: Wear eye protection/face protection. Eye and face protective devices must comply with ANSI Z87.1-1989. Recommended eye protection: goggles, flexible fitting, hooded ventilation. A transparent face shield is recommended.

Ingestion: Avoid eating, drinking, or smoking in work area and wash hands after handling this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

(a) Appearance (physical state, color): Viscous paste or liquid, various colors
(b) Odor: Ester-like
(c) Odor threshold: Data not available
(d) pH: Data not available
(e) Melting point/ freezing point: Data not available
(f) Initial Boiling point / Range: Data not available
(g) Flashpoint: > 212 °F (> 100 °C)
(h) Evaporation Rate: Data not available
(i) Flammability (solid/ gas): Not classified as flammable/ Not classified as flammable
(j) Upper/ lower flammability explosion limits: Data not available
(k) Vapor Pressure (mm Hg @ 68°F): Data not available
(l) Vapor Density (Air = 1): Data not available
(m) Relative Density (H₂O = 1): 1.02
(n) Solubility: insoluble in water
(o) Partition coefficient n- Octanol/ Water: Data not available
(p) Auto-ignition temperature: Data not available
(q) Decomposition temperature: Data not available
(r) Viscosity: Data not available
Other properties
VOC % (wt): ≤ 1.0
VOC (lbs./gal): ≤ 0.11

SECTION 10: STABILITY AND REACTIVITY INFORMATION

(a) Reactivity: Not reactive under normal storage conditions. See Section 7. Mixture will undergo polymerization reaction in the presence of sunlight, bright industrial lights, or high temperatures.
(b) Chemical stability: Mixture is chemically stable under normal storage and handling conditions, and under normal temperatures and pressures.
(c) Possibility of hazardous reactions: Exposure to excess heat may cause exothermic polymerization reaction.
(d) Conditions to avoid: Avoid contact with heat (temperature > 100° F, 38° C), sources of ignition, sunlight, and strong oxidizers.
(e) Incompatible materials: Radical forming initiators, peroxides or other strong oxidizers, strong alkalies or reactive metals.
(f) Hazardous decomposition product: No data available.

SECTION 11: TOXICOLOGICAL INFORMATION

(a) Likely routes of exposure: Skin contact, eye contact, inhalation, ingestion
(b) Symptoms related to physical, chemical, and toxicological characteristics:
   Skin contact: There may be irritation and redness at site of contact.
   Eye contact: There may be irritation and redness. Eyes may water profusely.
   Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.
   Ingestion: There may be irritation and redness of the mouth and throat, and a feeling of illness.
(c) Delayed and immediate effects, and chronic effects from long-term exposure
   No data available
(d) Numerical measures of toxicity:

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS #</th>
<th>Oral</th>
<th>Inhalation</th>
<th>Dermal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propenoic acid, 2-hydroxyethyl ester, polymer</td>
<td>72162-39-1</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Acrylated resin</td>
<td>TS</td>
<td>Rat, acute LD50 &gt; 2000 mg/kg</td>
<td>Rat, acute LC50, 4 hr. &gt;5 mg/L mist</td>
<td>Rabbit, acute LD50 &gt;2000 mg/kg</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic</td>
<td>52408-84-1</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>No data</td>
<td>LD50 2000 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>Polyester acrylate</td>
<td>TS</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>2-[[2,2-bis[[1-oxoallyl]oxy]methyl…</td>
<td>94108-97-1</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Esterification product of poly[oxy(methyl-1,2-ethanediyl)], .alpha…</td>
<td>84170-74-1</td>
<td>LD50 5000 mg/kg bw (rat)</td>
<td>LC50 (4 h) 2 mg/L air (rat)</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Pentaeerythritol, ethoxylated, esters with acrylic acid</td>
<td>51728-26-8</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>No data</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Glycerol propoxylate triacrylate</td>
<td>TS</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Reactive tertiary amine</td>
<td>TS</td>
<td>Rat, acute LD50 &gt; 2000 mg/kg</td>
<td>No data</td>
<td>Rabbit, acute LC50 &gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS #</td>
<td>Oral</td>
<td>Inhalation</td>
<td>Dermal</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-----------------------</td>
<td>----------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Photo initiator, Gans UVP-2044</td>
<td>TS</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic acid</td>
<td>52408-84-1</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>No data</td>
<td>LD50 2000 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>Epoxycrylate oligomer</td>
<td>TS</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>4,4’-Isopropylidenediphenol, oligomeric reaction products…</td>
<td>55818-57-0</td>
<td>LD0 2000 mg/kg bw (rat)</td>
<td>No data</td>
<td>LD0 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>2-hydroxyethyl acrylate</td>
<td>818-61-1</td>
<td>LD50 540 mg/kg bw (rat)</td>
<td>No data</td>
<td>LD50 1000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>tris(N-hydroxy-N-nitrosophenylaminato-O,O,O’)aluminium</td>
<td>15305-07-4</td>
<td>LD50 cut-off 500 mg/kg bw (rat)</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Phosphites</td>
<td>TS</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Pigment</td>
<td>TS</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
</tbody>
</table>

**(e) Carcinogens information:**

IARC, Group 1 (Carcinogenic to humans), Group 2A (Probably carcinogenic to humans), or Group 2B (Possibly carcinogenic to humans) by IARC:  
This mixture does not contain listed materials.

NTP, 13th Report on Carcinogens:  
This mixture does not contain listed materials.

OSHA:  
This mixture does not contain listed materials.

---

**SECTION 12: ECOLOGICAL INFORMATION**

(a) **Ecotoxicity**

*Classification of mixture:*
  - Hazardous to the Aquatic Environment, Acute – Category 1
  - Hazardous to the Aquatic Environment, Chronic – Category 1

(b) **Persistence and degradability:** No data available

(c) **Bioaccumulative potential:** No data available.

(d) **Mobility in soil:** No data available

(e) **Other adverse effects:** No known adverse effects

---

**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of contents/container in accordance with local/regional/national regulations.
This product does NOT exhibit the characteristics of a RCRA hazardous waste as defined under 40CFR261.

---

**SECTION 14: TRANSPORT INFORMATION**

US DOT (Ground):

(a) **UN number:** UN3082

(b) **UN Proper Shipping Name:** Environmentally hazardous substance, liquid, n.o.s.

(c) **Transport hazard class:** 9

(d) **Packing Group:** III

(e) **Environmental hazards:** Marine Pollutant

(f) **Transport in bulk**
   - MARPOL 73/78:
   - IBC:

(g) **Special Precautions:** None known
SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations
TSCA Section 8(b) Inventory Status: All ingredients in this mixture are listed on the TSCA Chemical Inventory, or are not required to be listed.
EPCRA, Section 302 – Extremely hazardous substances: This mixture does not contain listed materials.
CERCLA Hazardous Substances: This mixture does not contain listed materials.
EPCRA Section 313 Toxic Chemicals: This mixture does not contain listed materials.
CAA 112(r) Regulated Chemicals for Accidental Release Prevention: This mixture does not contain listed materials.
Hazardous Air Pollutants (HAP): This mixture does not contain listed materials.

U.S. State Regulations
California Proposition 65: This mixture does not contain listed materials.
New Jersey Right to Know: This mixture does not contain listed materials.
Oregon DEQ List of Air Toxic Contaminants: This mixture does not contain listed materials.
Pennsylvania Right to Know: This mixture does not contain listed materials.

Canadian Environmental Protection Act:
WHMIS Classification: No data available.

European Chemical Agency (ECHA): This mixture does not contain listed materials.

SECTION 16: OTHER INFORMATION

The information herein is presented in good faith, based on the data available to us and is believed to be correct as of the date hereof. However, Gans Ink and Supply Co., Inc. makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Gans Ink and Supply Co., Inc. assumes no responsibility for any damages of any nature directly or indirectly resulting from the use of or reliance upon the information contained herein. Users must make their own determination as to the suitability of the product for their purpose prior to use. In accordance with good practices of personal cleanliness and hygiene, handle with due care and avoid unnecessary contact with this product.