Material Safety Data Sheet # 198
For Printing Inks and related Materials

Date of preparation: 9/3/2010
Updated: 12/5/2013
MSDS#: 198

I. PRODUCT IDENTIFICATION

Manufacturer: Gans Ink and Supply Co, Inc.
Address: 1441 Boyd Street
Los Angeles, CA 90033
Emergency phone: (323) 264-2200

HMIS HAZARD IDENTIFICATION

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>B</td>
</tr>
</tbody>
</table>

Product Class: UV Flexo Overprint Varnish
Manufacturer’s code: Various, UV13868, UV14963
Trade Name: UV Flexo Matte, Gloss, Satin OPV & Coatings

II. HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS #</th>
<th>%</th>
<th>Exposure Limits</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bezophenone</td>
<td>119-61-9</td>
<td>1– 3</td>
<td>OSHA / PEL</td>
<td>Not Established</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ACGIH / TLV</td>
<td>Not Established</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Xi: R36/37/38 – 52/53, H315, H319, H412</td>
<td></td>
</tr>
<tr>
<td>1,6 Hexanediol diacylate</td>
<td>13048-33-4</td>
<td>8.0</td>
<td>OSHA / PEL</td>
<td>Not Established</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ACGIH / TLV</td>
<td>Not Established</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Xi: H315, H319, H317</td>
<td></td>
</tr>
<tr>
<td>Diocetyl Maleate</td>
<td>142-16-5</td>
<td>0.45</td>
<td>OSHA / PEL</td>
<td>Not Established</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ACGIH / TLV</td>
<td>Not Established</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R 36/ 37/ 38</td>
<td></td>
</tr>
<tr>
<td>Polyol Acrylate</td>
<td>Proprietary</td>
<td>1.2</td>
<td>OSHA / PEL</td>
<td>Not Established</td>
</tr>
<tr>
<td>2-[[((butylamino)carbonyl]oxy]ethyl acrylat</td>
<td>63225-53-6</td>
<td>5.0</td>
<td>OSHA / PEL</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

Health Hazard
Dangerous for the environment
Refer to section 16 for explanation of Hazard & Risk statements.

III. HEALTH HAZARD INFORMATION

Effects of Overexposure
Inhalation: Avoid inhalation. Inhalation of mist or vapor can cause irritation of mucous membranes and respiratory tract. Acute overexposure may result in irritation of the throat and lungs.
**Skin Contact:** Avoid skin contact. This product is irritating to the skin upon direct contact. Prolonged or repeated contact may result in contact dermatitis which is characterized by dryness, chapping, and reddening. This condition may make the skin more susceptible to other irritants, sensitizers, and disease. Pre-existing skin conditions may make the skin more susceptible and facilitate uptake by this route.

**Eye Contact:** Avoid eye contact. Moderate irritant. This product is irritating to the eyes upon direct contact. Can cause burning sensation, tearing, swelling, and redness. Those known to be sensitized to acrylates should avoid all exposure to this product. Avoid prolonged exposure.

**Ingestion:** Do not ingest. May irritate the mouth, throat, and gastrointestinal tract. Severe oral intoxication will lead to intense burning of the throat and may result in drowsiness, dullness, numbness, and headache followed by dizziness, weakness, and nausea. See Notes to Physician section below.

### IV. FIRST AID PROCEDURES

<table>
<thead>
<tr>
<th>Emergency &amp; First Aid Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eyes:</strong> Immediately flush eyes with large amounts of water and continue flushing for 15 minutes. Seek medical attention.</td>
</tr>
<tr>
<td><strong>Skin:</strong> Remove contaminated clothing. Wash contaminated area thoroughly with soap and cold water. If redness or irritation occurs, seek medical attention.</td>
</tr>
<tr>
<td><strong>Inhalation:</strong> Remove victim from exposure. If breathing has stopped or is irregular, administer artificial respiration and supply oxygen if it is available. If victim is unconscious, remove to fresh air and seek medical attention.</td>
</tr>
<tr>
<td><strong>Ingestion:</strong> Do not induce vomiting. If vomiting should occur spontaneously keep airway clear. Seek immediate medical attention. Never give anything by mouth to an unconscious person.</td>
</tr>
</tbody>
</table>

**Notes to Physician:** Aspiration may lead to chemical pneumonitis which is characterized by pulmonary edema and hemorrhage, and may be fatal. Signs of lung involvement include increased respiration rate, increased heart rate, and a bluish discoloration of the skin. Coughing, choking, and gagging are often noted at the time if aspiration. Gastrointestinal discomfort may develop, followed by vomiting, with risk of aspiration.

### V. FIRE AND EXPLOSION DATA

<table>
<thead>
<tr>
<th>Flash Point °F:</th>
<th>(100 °C) 212 °F Cleveland open cup</th>
<th>Auto-ignition Temperature °F:</th>
<th>No Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Limits in Air (% Volume)</td>
<td>Lower Limit: No Data</td>
<td>Upper Limit: No Data</td>
<td></td>
</tr>
</tbody>
</table>

**Extinguishing Media:** Use water spray, foam, CO₂, or dry chemical extinguishing media.

**Special Fire Fighting Procedures:** Remove all ignition sources. Firefighters wear self-contained breathing apparatus and complete personal protective equipment when entering buildings and confined areas where this material is stored. Keep containers cool by spraying with water if exposed to fire.

**Unusual Fire & Explosion Hazard:** Polymerization is a highly exothermic reaction and may produce sufficient heat to cause thermal decomposition. High temperatures and fire conditions may cause rapid and uncontrollable polymerization which can result in explosions and the violent rupture of storage vessels. Uncontrolled polymerization may occur at temperatures above 140°F (60°C).

### VI. ACCIDENTAL RELEASE

**Steps to be taken in event of spill or release:** Remove all ignition sources, as spilled material may polymerize. Wear protective clothing and gloves. Move leaking containers to ventilated area. Stop discharge, if it can be performed safely. Absorb product with a suitable material such as vermiculite, cloth or sawdust. Place in a suitable container for disposal. Do NOT flush to sewer, drains or waterways. Clean up with a suitable

### VII. HANDLING AND STORAGE

**Handling and Storage:** Store in containers in a cool, well-ventilated area. DO NOT expose to direct sunlight, ultraviolet light or temperatures exceeding 140°F (60°C) as it may cause uncontrollable
polymerization of this product with generation of heat. Keep away from all sources of ignition. Store in stainless steel, amber glass, amber polyethylene or baked phenolic lined container. Avoid prolonged contact with skin, contact with eyes, and breathing of mist or vapor. Always wash hands and face with soap and water before eating, drinking, and smoking. Avoid discharge into the environment.

**Other Precautions:** For industrial use only. Do not ingest. Food, beverages, and tobacco should not be carried, stored or consumed in work areas. Avoid prolonged contact with skin, contact with eyes, and breathing of mist or vapor.

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**VIII. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Ventilation Requirements:** Local exhaust is recommended. Adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specific exposure or flammable limits.

**Personal Protective Equipment**

**Respirator:** Respiratory protection is not required under conditions of normal use. If vapor or mist is generated when the material is heated or handled, use an organic vapor respirator with a dust and mist filter. All respirators must be NIOSH certified. Do not use compressed oxygen in hydrocarbon atmospheres.

**Skin:** The use of impermeable gloves and protective clothing (boots, aprons etc.) over parts of the body subject to exposure is recommended. DO NOT wear PVC gloves as PVC absorbs Acrylate. Safety showers are recommended.

**Eye:** The use of eye protection is recommended. Wear plastic face shield or splash-proof safety glasses or goggles. Eye wash stations are recommended.

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**IX. PHYSICAL AND CHEMICAL DATA**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point °F</td>
<td>212 – 482 °F</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>No Data</td>
</tr>
<tr>
<td>Relative Density (H₂O = 1)</td>
<td>1.0 – 1.27</td>
</tr>
<tr>
<td>Material Density Lbs./Gal.</td>
<td>8.33 – 10.58</td>
</tr>
<tr>
<td>% Volatiles by Weight</td>
<td>&lt; 0.5</td>
</tr>
<tr>
<td>VOC: lbs/gal</td>
<td>0.053 g/L</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg @ 68°F)</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>pH</td>
<td>No Data</td>
</tr>
<tr>
<td>Appearance/Odor</td>
<td>Liquid / Ester like Odor</td>
</tr>
</tbody>
</table>

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**X. STABILITY AND REACTIVITY INFORMATION**

**Stability (Thermal, Light, etc.):** Stable

**Conditions to avoid:** Sources of ignition. Excessive heat, temperatures 140 F (60C). Direct sunlight, ultraviolet light.

**Hazardous Polymerization:** Hazardous exothermic polymerization can occur when temperatures exceed 140 F (60C) or exposed to direct sunlight.

**Materials to avoid:** Contact with strong oxidizers, free radical producing initiators, peroxides and metal ions.

**Hazardous Decomposition Products:** CO₂, CO, and other oxides may be generated as products of combustion.

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**XI. TOXICOLOGICAL INFORMATION**

**CARCINOGEN:** This product has not been identified as a carcinogen by OSHA or the National Toxicology Program (NTP), or the International Agency for Research Cancer (IARC).

**Mutagen:** No Data

**Teratogen:** No Data

**Reproductive Toxicity:** No Data

Benzophenone 119-61-9

Oral LD₅₀ 1600-2895 mg/ kg (mouse)

Dermal LD₅₀ > 3500 mg/ kg (rabbit)

The toxicological properties of this product have not been determined. Prolonged or repeated contact with skin and mucous membrane may result in irritation symptoms such as redness, blistering and dermatitis. The inhalation of airborne droplet may cause irritation of the respiratory tract.
XII. ECOLOGICAL INFORMATION
Harmful to aquatic organisms. May cause long lasting effects in the aquatic environment. Do Not allow to enter sewers, waterways, drains etc.

XIII. DISPOSAL INFORMATION
Waste Disposal Method: If recycling as ink is not possible, material may be incinerated or land filled at a licensed facility in accordance with local, state, and federal regulations.

XIV. TRANSPORT INFORMATION
Flammability Classification:
OSHA: Class III B
DOT: Not Regulated
UN Number: Not applicable
ADR/ RID: Not Applicable
IMDG: Not Regulated
IATA: Not Restricted

XV. REGULATORY INFORMATION
SARA Title III Section 313:
This material DOES NOT contain chemicals subject to the reporting requirements of the SARA Superfund Amendments and Reauthorization Act.

TSCA Section 8(b) Inventory Status:
All component(s) of this product are either exempt or listed on the TSCA Inventory.

U.S. State Regulations

California Proposition 65:
This product does not intentionally contain any chemicals known by the state of California to cause cancer and/or reproductive harm. Moreover, Gans Ink and Supply Co., Inc. does not routinely analyze its products for impurities which may be such chemicals.

Canadian Domestic Substances List (DSL):
All components of this product are either exempt or listed on the DSL.

XVI. OTHER INFORMATION
Hazard & Risk Statements
H 315: Causes skin irritation
H317: May cause allergic reaction
H319: Causes serious eye damage
H412: Harmful to aquatic life with long lasting effect
Xi: Irritant
R 36/ 38-43 Skin, eye or inhalation irritant
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.