Material Safety Data Sheet # 278
For Printing Inks and related Materials

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

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>(1-methyl-1,2ethanediyl)bis[oxy (methyl-2,1-ethanediyl)diacrylate</td>
<td>42978-66-5</td>
<td>10-29.9</td>
<td>OSHA/ PEL</td>
<td>NE</td>
</tr>
<tr>
<td>EINECS 256-032-2</td>
<td></td>
<td></td>
<td>Xi; R36/37/38, N;R51/53, R43</td>
<td></td>
</tr>
<tr>
<td>Epoxy Acrylate</td>
<td>55818-57-0</td>
<td>30-60</td>
<td>OSHA/ PEL</td>
<td>NE</td>
</tr>
<tr>
<td>EINECS 500-130-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzophenone</td>
<td>119-61-9</td>
<td>2-5</td>
<td>OSHA/ PEL</td>
<td>NE</td>
</tr>
<tr>
<td>EINECS 200-337-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Symbols: NE: Not Established  Xi: Irritant
R43: May cause sensitization
R52/53: Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R36/37/38: Irritating to eyes, respiratory tract and skin.

III. HEALTH HAZARD INFORMATION

Effects of Overexposure

**Inhalation:** Avoid inhalation. Inhalation of mist or vapor can cause irritation of the respiratory tract. Acute overexposure may result in irritation of the throat and lungs. Avoid prolonged exposure.

**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. Individuals with pre-existing skin disorders can be at greater risk. Those known to be sensitized to acrylates should avoid all exposure to this product.

**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

**Emergency & First Aid Procedures**

**Eyes:** Immediately flush eyes with large amounts of water and continue flushing for 15 minutes. Seek medical attention. Remove contact lenses before flushing eyes.

**Skin:** Remove contaminated clothing immediately. Wash contaminated area thoroughly with soap and cold water. If redness or irritation occurs, seek medical attention. Launder clothing before reuse.

**Inhalation:** 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. Never give anything by mouth to an unconscious person.

**Ingestion:** 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.

**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>212 °F (100 °C) Cleveland open cup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition Temperature °F:</td>
<td>No Data</td>
</tr>
</tbody>
</table>

| Flammable Limits in Air (%) Volume | Lower Limit: No Data | Upper Limit: No Data |

**Extinguishing Media:** Use water spray, fog or mist, 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. Move containers from fire area if safe to do so without risk. Keep containers cool by spraying with water if exposed to fire. Keep run-off water out of sewers and water sources.

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

VI. ACCIDENTAL RELEASE

**Steps to be taken in event of spill or release:** Wear protective clothing and gloves. Move leaking containers to ventilated area. DO NOT expose to direct sunlight, ultraviolet light or temperatures exceeding 140 °F (60°C) as it may cause hazardous and uncontrollable polymerization of this product with generation of heat. Remove all ignition sources, as spilled material may polymerize. 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. Dispose of in accordance to state, local and Federal regulations. Do NOT flush to sewer, drains or waterways. Clean up with a suitable solvent.

VII. HANDLING AND STORAGE

**Handling and Storage:** Avoid prolonged contact with skin, eyes, and breathing of mist or vapor. Wear protective gloves when handling product. Store in closed 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 heat, sparks, open flame and all sources of ignition. Always wash hands and face with soap and water before eating, drinking, and smoking.

**Other Precautions:** For industrial use only. Do not ingest. Consumption of food and beverages should be avoided in work areas.
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 impervious protective clothing (boots, gloves, 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.

IX. PHYSICAL AND CHEMICAL DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point °F</td>
<td>&gt; 200 °F</td>
</tr>
<tr>
<td>Relative Density (H₂O = 1)</td>
<td>.997</td>
</tr>
<tr>
<td>Material Density Lbs./Gal</td>
<td>8.30</td>
</tr>
<tr>
<td>% Volatiles by Weight</td>
<td>0</td>
</tr>
<tr>
<td>VOC: lbs/gal:</td>
<td>0 g/L: 0</td>
</tr>
<tr>
<td>Vapor Density (Air = 1):</td>
<td>No Data</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>Colorless liquid/ ester like odor</td>
</tr>
</tbody>
</table>

X. STABILITY AND REACTIVITY INFORMATION

<table>
<thead>
<tr>
<th>Stability (Thermal, Light, etc.):</th>
<th>Conditions to avoid:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable under the prescribed storage conditions.</td>
<td>Sources of ignition. Excessive heat, temperatures 140 °F (60°C). Direct sunlight, ultraviolet light. Keep from freezing</td>
</tr>
</tbody>
</table>

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

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

Hazardous Decomposition Products: None under normal conditions.

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

The toxicological properties are not fully determined.

XII. ECOLOGICAL INFORMATION

R 52/53 Harmful to aquatic organisms. May cause long-term adverse 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. Do Not allow to enter sewers, drains or waterways.

XIV. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability Classification:</td>
<td>Class III B</td>
</tr>
<tr>
<td>OSHA:</td>
<td></td>
</tr>
<tr>
<td>US DOT (Ground):</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>Proper Shipping Name:</td>
<td></td>
</tr>
</tbody>
</table>
Hazard Class: None
Packing Group: None
ADR/ RID: Not Applicable

IMO/ IMDG (Sea):
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9

ICAO/ IATA (Air):
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9

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.

SARA Section 302 - Extremely Hazardous Substances (EHS):
This product does not contain any components regulated under Section 302 (40 CFR 355) as EHS.

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

TSCA 12(b) Export Notification:
This product does not contain any component(s) that are subject to a Section 12(b) Export Notification.

U.S. State Regulations
California Proposition 65:
This product contains a chemical(s) known by the state of California to cause cancer.

Chemical  CAS#
Benzophenone  119-61-9

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

XVI. 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.

Safety Glasses
Gloves