Material Safety Data Sheet  # 203.2
For Printing Inks and related Materials
Date of preparation:  2/4/99
Updated:  7/24/08
Supersedes:  6/15/04
MSDS:  203.2

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

II. COMPOSITION / INGREDIENTS
Material                                  CAS #      %               Exposure Limits Units
Acrylate mixtures                   N/A       51-62          N/E
Photoinitiator mixtures           N/A        6-12           ACGIH PEL  5 mg/M³

The specific chemical identity (including CAS No.) and / or specific concentrations of the constituents contained in this vehicle are regarded as“ Trade Secret” information.

I. PRODUCT IDENTIFICATION

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>2</td>
<td></td>
<td>1</td>
<td>2</td>
<td>B</td>
</tr>
</tbody>
</table>

Product Class: Lithographic UV Printing Ink
Manufacturer’s code: Various, UV11855-58
Trade Name: UV Hybrid

III. HEALTH HAZARD INFORMATION
Effects of Overexposure

**Inhalation:** Not expected to be a hazard due to low volatility under standard conditions. Inhalation of mist or vapor may cause irritation or respiratory tract.

**Skin Contact:** Contains materials that may cause moderate skin injury (reddening and swelling) and/or sensitization. Prolonged contact may cause blister formations (burns). Since irritation may not occur immediately, contact can go unnoticed. 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:** Moderate irritant. Can cause burning sensation, tearing, swelling, and redness. Injury may persist for several days. Individuals with pre-existing eye disorders can be at greater risk. Those known to be sensitized to acrylates should avoid all exposure to this product.

**Ingestion:** May irritate the mouth, throat, and gastrointestinal tract.

IV. FIRST AID PROCEDURES

Emergency & First Aid Procedures

**Eyes:** Immediately flush eyes with large amounts of water and continue flushing for 15 minutes until irritation subsides. Seek medical attention

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

**Inhalation:** This material has a low vapor pressure and is not expected to present an inhalation exposure at ambient conditions. If mist or exposure is generated when the material is heated or handled, remove victim from exposure. Seek fresh air. 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.

**Ingestion:** Do not induce vomiting. Seek immediate medical attention.

**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>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point °F</td>
<td>&gt;200</td>
</tr>
<tr>
<td>Auto-ignition Temperature °F</td>
<td>No Data</td>
</tr>
<tr>
<td>Flammable Limits in Air</td>
<td>No Data</td>
</tr>
<tr>
<td>Upper Limit</td>
<td>No Data</td>
</tr>
</tbody>
</table>

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

**Special Fire Fighting Procedures:** Remove all ignition sources. Wear self-contained breathing apparatus and complete personal protective equipment when entering confined areas.

**Unusual Fire & Explosion Hazard:** High temperatures and fire conditions may cause rapid and uncontrollable polymerization which can result in explosions and the violent rupture of storage vessels. Avoid the use of a stream of water to control fires since frothing can occur.

## VI. ACCIDENTAL RELEASE

**Steps to be taken in event of spill or release:** Remove all ignition sources, as spilled material may polymerize. Move leaking containers to ventilated area. Stop discharge, if it can be performed safely, and contain material. Place in a suitable container for disposal. DO NOT flush to sewer.

## VII. HANDLING AND STORAGE

**Handling and Storage:** Store in containers in a cool, dry well-ventilated area. Keep away from sources of ignition. Store away from sunlight and ultraviolet lights. To ensure optimal product stability, store between 40°F and 80°F.

**Other Precautions:** For industrial use only. Do not ingest. Avoid prolonged contact with skin, contact with eyes, and breathing of mist or vapor. Consumption of food and beverages should be avoided in work areas where hydrocarbons are present. Always wash hands and face with soap and water before eating, drinking, and smoking.

## VIII. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Ventilation Requirements:** If vapor or mist is generated when the material is heated or handled, 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 in 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:** No skin protection is required for single, short duration exposures. For prolonged exposures, use impervious synthetic rubber clothing (boots, gloves, etc.) over parts of the body subject to exposure. 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. A combination barrier cream, applied before exposure and gloves are recommended. DO NOT apply cream after exposure.

**Eye:** Eye protection is not required under conditions of normal use. If material is handled such that it could be splashed into eyes, wear plastic face or splash-proof safety goggles. Individuals with pre-existing eye disorders can be at greater risk. Those known to be sensitized to acrylates should avoid all exposure to this product.
IX. PHYSICAL AND CHEMICAL DATA

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Range °F:</td>
<td>&gt;200</td>
</tr>
<tr>
<td>Vapor Density (Air = 1):</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative Density (H₂O = 1):</td>
<td>0.95-1.15</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg @ 70°C):</td>
<td>slower than Butyl Acetate</td>
</tr>
<tr>
<td>Material Density Lbs./Gal:</td>
<td>7.93 – 9.60</td>
</tr>
<tr>
<td>% Volatiles by Weight:</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>% Solids by Weight:</td>
<td>99 - 100</td>
</tr>
<tr>
<td>VOC: lbs/gal:</td>
<td>&lt; 0.09</td>
</tr>
<tr>
<td>g/L:</td>
<td>11.5</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Appearance/Odor:</td>
<td>Colored paste</td>
</tr>
</tbody>
</table>

X. STABILITY AND REACTIVITY INFORMATION

<table>
<thead>
<tr>
<th>Stability (Thermal, Light, etc.):</th>
<th>Conditions to avoid:</th>
<th>Materials to avoid:</th>
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</thead>
<tbody>
<tr>
<td>Stable</td>
<td>Avoid sources of ignition, open flame, extreme heat. Avoid exposure to ultraviolet light or sunlight.</td>
<td>Avoid initiators including peroxides, strong oxidizing agents, copper, copper alloys, carbon steel, iron, rust, nickel, cobalt, and strong bases.</td>
</tr>
<tr>
<td>Hazardous Polymerization:</td>
<td>High temperatures &gt;140°F and oxygen deficient atmosphere reduce inhibitor effectiveness and may cause polymerization, raising the temperature and pressure, possibly rupturing the container. <strong>DO NOT</strong> blanket or mix with nitrogen or other inert gases as this renders the inhibitor ineffective.</td>
<td></td>
</tr>
<tr>
<td>Hazardous Decomposition Products:</td>
<td>CO₂, CO, and other oxides may be generated as products of combustion.</td>
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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                                                                 |

XII. ECOLOGICAL INFORMATION

This product has not been evaluated at this time.

XIII. DISPOSAL INFORMATION

Waste Disposal Method: If discarded in its original unused form, this product does not exhibit the characteristics of a RCRA hazardous waste as defined under 40CFR261. Waste materials should be dumped or buried in an approved landfill, or incinerated in a suitable combustion chamber. Disposal must comply with all local, state, and federal regulations. Of the methods of disposal currently available, it is recommended that an alternative be selected according to the following order of preference, based upon environmental acceptability:
1) Recycle or rework if at all feasible.
2) Incinerate at an authorized facility.
3) Treat at an acceptable waste treatment facility.

XIV. TRANSPORT INFORMATION

| Flammability Classification: | OSHA: Class III B | DOT: Not Regulated |
XV. REGULATORY INFORMATION

Section 302 – Extremely hazardous substances: Any ingredient that is in “Extremely Hazardous Substance” will be indicated in Section II of this MSDS.

Section 311/312 – Hazard Categories: Pursuant to Section 311/312 of SARA Title III, the physical and health hazard categories for this product are identified below:
Fire Hazard – NO
Sudden Release of Pressure Hazard – NO
Reactivity Hazard – YES
Immediate (acute) Health Hazard – YES
Delayed (chronic) Health Hazard – YES.

Section 313 – Toxic chemicals: Any ingredient that is a “toxic chemical” and is in this mixture in excess of 1% (0.1% if listed as a carcinogen) will be indicated in Section II of this MSDS.

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

U.S. Federal Regulations

Clean Air Act - Hazardous Air Pollutants (HAP):
This product does not contain any HAP, as defined by the U.S. Clean Air Act Section 112 (40 CFR 61)

Clean Air Act - Ozone Depleting Substances (ODS):
This product neither contains, nor was manufactured with, a Class I or Class II ODS, as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpart A, Appendix A and B).

Clean Water Act:
None of the chemicals in this product are listed as Priority Pollutants under the CWA.

FDA:
This product is not registered with the FDA.

FDA suitability for packaging:
The FDA has developed guidelines under Code of Federal Regulations (CFR) Title 21 Food and Drugs Chapter I Parts 170-190, of the Federal Food, Drug and Cosmetic Act. These guidelines are for products which are considered to be either direct (food ingredients), secondary direct (added to food during processing but removed) or indirect (food packaging and other food contact materials) food additives. Printing inks or coatings printed on a packaging substrate, which by design are intended to be in direct contact with the food product, are classified as potential indirect food additives. Products manufactured by Gans Ink and Supply Co, Inc. are not suitable for these applications.

However, according to Section 201(s) of the Food, Drug and Cosmetic Act, inks that are converted on the exterior of food packaging substrates are not food additives, as direct food contact is not expected.

Therefore, they are not subject to the FDA Food Additive Regulations, provided that the packaging substrate and/or the applied coating serve as a functional barrier between the ink and food or drug product.

Providing the inks and/or coatings are thoroughly polymerized, giving the desired adhesion, rub/scuff, blocking resistance with no offsetting and without any migration to the food product, they will give a suitably pure food package.

Gans Ink and Supply Co., Inc. cannot determine or certify whether or not the substrate is a suitable barrier and the information would have to be supplied by the substrate manufacturer.

Coalition of Northeast Governors (CONEG) Legislation:
This product meets the Coalition of Northeast Governors (CONEG) Source Reduction Council limits for the sum of the levels of Lead, Cadmium, Mercury and Hexavalent Chromium of less than 100 parts per million by weight.
**International Regulations**

**Reduction of Hazardous Substances (RoHS) Compliance:**

This product is compliant with the RoHS Direct

**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.

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**XVI. OTHER INFORMATION**

ACGIH: American Conference of Governmental Industrial Hygienists.
ASTM: American Society for Testing and Materials
CAS #: Chemical Abstract Service Registry Number.
DOT: Department of Transportation.
IARC: International Agency for Research on Cancer.
   Group 1: Carcinogenic to humans.
   Group 2A: Probable carcinogenic to humans.
   Group 2B: Possible carcinogenic to humans.
   Group 3: Unclassified as a carcinogen to humans
N/A: Not Applicable.
N/D: Not Determined
N/E: Not Established.
NTP: National Toxicology Program.
NIOSH: National Institute for Occupational Safety and Health.
OSHA: Occupational Safety & Health Administration.
PEL: Permissible Exposure Limit.
STEL: Short Term Exposure Limit (15 minute Time Weighted Average).
TLV: Threshold Limit Value.
VOC: Volatile Organic Compound

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.