Material Safety Data Sheet # 203.A
For Printing Inks and related Materials

Date of preparation: 11/27/2013
MSDS#: 203.A

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

Product Class: Lithographic UV Printing Ink
Trade Name: UV Litho Ink

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>Polyol Acrylates</td>
<td>proprietary</td>
<td>1.0</td>
<td>Not Established</td>
<td></td>
</tr>
<tr>
<td>Proprietary Mixture</td>
<td>NJTSRN-6000-1620</td>
<td>23.3</td>
<td>Not Established</td>
<td></td>
</tr>
<tr>
<td>2-methyl-1-(methylthio) phenyl-2-</td>
<td>71868-10-5 EC No. 400-600-6</td>
<td>7.1</td>
<td>R51/53</td>
<td>Not Established</td>
</tr>
<tr>
<td>(4-morphoinyl) 1-propanone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photoinitiators, mixtures</td>
<td>not available</td>
<td>3-8</td>
<td>ACGIH/ PEL 5 mg/M³ air 8hr TWA</td>
<td></td>
</tr>
<tr>
<td>DiTrimethylolpropane tetraacrylate</td>
<td>94108-97-1 EC No. 302-434-9</td>
<td>10.3</td>
<td>Xi, R43</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

Warning Health Hazard

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

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. Chronic exposure to high concentrations of aerosols of mists to laboratory animals has resulted in non-specific symptoms related to the nervous system, gastrointestinal tract, and lungs.

Skin Contact: Avoid 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. Pre-existing skin conditions may make the skin more susceptible and facilitate uptake by this route. 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
persists for several days. Exposure to high concentrations of vapors can be irritating to the eyes.

**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. Loss of consciousness and convulsions followed by death may result. 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></td>
</tr>
<tr>
<td><strong>Skin:</strong></td>
</tr>
<tr>
<td><strong>Inhalation:</strong></td>
</tr>
<tr>
<td><strong>Ingestion:</strong></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 of 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>&gt; 212 °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition Temperature °F:</td>
<td>No Data</td>
</tr>
<tr>
<td>Flammable Limits in Air</td>
<td>Lower Limit:</td>
</tr>
<tr>
<td></td>
<td>Upper Limit:</td>
</tr>
</tbody>
</table>

**Extinguishing Media:** Use water fog, foam, CO₂, or dry chemical extinguishing media. Avoid the use of a stream of water to control fires since frothing can occur.

**Special Fire Fighting Procedures:** Remove all ignition sources. Do not enter fire area without proper protection. Wear self-contained breathing apparatus and complete personal protective equipment when entering confined areas. Fight fire from a safe distance. Water may be ineffective in firefighting due to low solubility. Use water spray or fog for cooling.

**Unusual Fire & Explosion Hazard:** High temperatures, inhibitor depletion, accidental impurities, exposure to radiation or oxidizers and fire conditions, may cause rapid spontaneous and uncontrollable polymerization reaction generating heat / pressure, 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:** Remove all ignition sources, as spilled material may polymerize. Ensure adequate ventilation. Wear protective equipment during clean-up. Stop discharge, if it can be performed safely, and contain material. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Place in a suitable container for disposal. Wash spill area with a strong detergent and water solution; rinse with water, contain and minimize water use during clean-up. Keep spill water from entering drains. Do NOT flush to sewer. Advise water authority if spillage has entered into water course or drainage system.
VII. HANDLING AND STORAGE

Handling and Storage: Wear proper protective clothing and gloves when handling. Store in containers in a cool, well-ventilated area. Do Not store above 38 °C/ 100 °F or excessive cold temperatures, 0 °C/ 32 F. Store in tightly closed containers away from heat, sparks, open flame, sources of ignition. Avoid exposure to ultraviolet light and/or sunlight. Avoid prolonged contact with skin, contact with eyes, and breathing of mist or vapor. Always wash hands and face with soap and water after handling. Do not use solvents for cleaning hands or skin, as solvents may increase the penetration of the product into the skin.

Other Precautions: For industrial use only. Do not ingest. Consumption of food and beverages should be avoided in work areas. 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 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: Use impervious synthetic rubber clothing (apron, boots, gloves, etc.) over parts of the body subject to exposure. A barrier cream is recommended to be applied on clean hands before applying gloves, not after exposure. A barrier cream alone is not recommended; as it is not impervious to chemicals. Safety showers are recommended.

Eye: Eye protection is required under conditions of normal use. 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 Range °F</td>
<td>212 – 300 °F</td>
</tr>
<tr>
<td>Vapor Density (Air = 1):</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative Density (H₂O = 1):</td>
<td>2.138</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg @ 68°F):</td>
<td>slower than Butyl Acetate</td>
</tr>
<tr>
<td>Material Density Lbs./Gal:</td>
<td>17.81</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Insoluble</td>
</tr>
<tr>
<td>%Volatiles by Weight:</td>
<td>0.25</td>
</tr>
<tr>
<td>pH:</td>
<td>No Data</td>
</tr>
<tr>
<td>VOC: lbs/gal:</td>
<td>0.044 g/L:</td>
</tr>
<tr>
<td>Appearance/Odor:</td>
<td>5.35 Colored paste</td>
</tr>
</tbody>
</table>

X. STABILITY AND REACTIVITY INFORMATION

Stability (Thermal, Light, etc.): Stable under normal circumstances and conditions of proper storage.

Conditions to avoid: Excessive heat, 38 °C/ 100 °F or cold 0 °C/ 32 F. Sources of ignition. Loss of dissolved air or loss of polymerization inhibitor. Contamination of incompatible materials. Do Not store above 140°F. Avoid exposure to ultraviolet light, and / or sunlight.

Hazardous Polymerization: High temperatures (>140°F) and oxygen deficient atmosphere reduce inhibitor effectiveness and may cause polymerization, raising the temperature and pressure, possible rupturing the container. Do NOT blanket or mix with nitrogen or other inert gases as this renders the inhibitor ineffective.

Materials to avoid: Initiators including peroxides, strong oxidizing agents, copper, copper alloys, carbon steel, iron, rust, nickel, cobalt, and strong bases.

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

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

Toxicological information on the regulated components of this product is as follows:

Polyol Acrylate
Oral Rat LD50 > 2000 mg/kg
Skin Rabbit LD50> 2000 mg/kg

Hexamethylene diacrylate 13048-33-4
Oral LD50 (Rat) > 5000 mg/kg
Dermal LD50 (Rabbit) > 3000 mg/kg

XII. ECOLOGICAL INFORMATION
This product has not been evaluated at this time. However as with all chemicals and products, Do Not allow to enter drains, sewers or waterways.

Ecological Information on the regulated components of this product is as follows:

Polyol Acrylate
Fish 96 H LC50 1 – 10 mg/l
Biodegradable, No bioaccumulation potential

Negligible ecotoxicity.

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
ICAO/ IATA: Not Regulated
IMDG/ IMO: Not Regulated

XV. REGULATORY INFORMATION

SARA Title III Section 313:
This material contains a chemical(s) subject to the reporting requirements of the SARA Superfund Amendments and Reauthorization Act.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mn Comp.</td>
<td>N450</td>
<td>0.646</td>
</tr>
<tr>
<td>Zn Comp.</td>
<td>N982</td>
<td>0.646</td>
</tr>
</tbody>
</table>
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.

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.

XVI. OTHER INFORMATION

Risk Phrases:
Xi: Irritant Chemicals that may cause inflammation to the skin or other mucous membranes.
R36/38: Irritating to eyes and skin
R43: May cause sensitization by skin contact
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects to the environment.

Hazard Statement:
H315: Causes skin irritation
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation

⚠️ Warning

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