Safety Data Sheet

SECTION 1: IDENTIFICATION

SDS Number: 501.1, version 5/21/2018

(a) Product identifier
Gans Item ID: UVV877

Gans Description: OS Vinylcure P877 Silver

(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 number:
Available only during business hours.
(323) 264-2200 Monday- Friday 7:00 A.M. – 9:00 P.M.
24 Hours Response: Los Angeles County Fire Department / HazMat. Department

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:
  - Eye Irritation – Category 1
  - Skin Irritation – Category 2
  - Skin Sensitization - Category 1
  - Carcinogenicity – Category 2
  - Reproductive Toxicity – Category 1B
(b) Label elements

Signal Word: Danger

Hazard Statements: Causes skin irritation; Causes serious eye damage; May cause an allergic skin reaction Suspected of causing cancer; May damage fertility or the unborn child.

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. Avoid breathing mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wash contaminated areas thoroughly after handling.

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. Immediately call a poison center/doctor. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Not classified as hazardous.

Storage: Store locked up.

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>Glycerol, propoxylated, esters with acrylic acid</td>
<td>52408-84-1</td>
<td>0%</td>
<td>21.1%</td>
</tr>
<tr>
<td>aluminum powder (stabilized)</td>
<td>7429-90-5</td>
<td>15.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Multifunctional Acrylate</td>
<td>84170-74-1</td>
<td>0%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Acrylated resin</td>
<td>TS</td>
<td>0%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Polyester Acrylate</td>
<td>TS</td>
<td>0%</td>
<td>15.0%</td>
</tr>
<tr>
<td>2-[[2,2-bis[[1-oxoallyloxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate</td>
<td>94108-97-1</td>
<td>0%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Oxybis(methyl-2,1-ethanediyl) diacrylate</td>
<td>57472-68-1</td>
<td>0%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS #</td>
<td>Conc. min.</td>
<td>Conc. max.</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Benzene (tetrapropenyl) derivatives</td>
<td>68512-02-7</td>
<td>5.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Pentaerythritol, ethoxylated, esters with acrylic acid</td>
<td>51728-26-8</td>
<td>0%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Vinylester Resin</td>
<td>TS</td>
<td>0%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Gans UVP-2002</td>
<td>TS</td>
<td>0%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Ethoxylated (3) Trimethylolpropane</td>
<td>28961-43-5</td>
<td>0%</td>
<td>7.9%</td>
</tr>
<tr>
<td>2,6-di-tert-butyl-p-cresol</td>
<td>128-37-0</td>
<td>0%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Rosin</td>
<td>8050-09-7</td>
<td>0%</td>
<td>3.0%</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%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Epoxy acrylate oligomer</td>
<td>TS</td>
<td>0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Tris(N-hydroxy-N-nitrosophenaminato-O,O')aluminium</td>
<td>15305-07-4</td>
<td>0%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

**SECTION 4: FIRST AID MEASURES**

(a) **Description of first aid measures:**

**If exposed or concerned:** Get medical advice/attention.

**Inhalation:** Not classified as hazardous.

**Skin contact:** Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

**Eye contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.

**Ingestion:** If exposed or concerned: Get medical advice/attention.

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

**Ingestion:** Suspected of causing cancer. May damage fertility or the unborn child.

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

**Eye contact:** Causes serious eye damage.

(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, extinguishing powder, extinguishing powder for metal fires, or dry sand. Fight larger fires with alcohol resistant foam. **Do not use water.**

**Unsuitable extinguishing media:** Water

(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:
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. Avoid breathing mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wash contaminated areas thoroughly after handling.

(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.

(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.
Wash contaminated areas thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Avoid breathing mist/ vapors/spray.

(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>(a) Permissible exposure limits</th>
<th>OSHA PEL</th>
<th>Cal/OSHA PEL</th>
<th>NIOSH REL</th>
<th>ACGIH 2015 TVL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance</td>
<td>CAS #</td>
<td>ppm</td>
<td>8-hour TWA (ST) STEL (C) Ceiling</td>
<td>Up to 10-hour TWA (ST) STEL (C) Ceiling</td>
</tr>
<tr>
<td>No data available</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, metallic silver
(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): Data not available
(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 alkali 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**: Causes skin irritation. May cause an allergic skin reaction.
   - **Eye contact**: Causes serious eye damage.
   - **Inhalation**: Not classified as hazardous.
   - **Ingestion**: Suspected of causing cancer. May damage fertility or the unborn child.

(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>Glycerol, propoxylated, esters with acrylic acid</td>
<td>52408-84-1</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD50 2000 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>aluminum powder (stabilized)</td>
<td>7429-90-5</td>
<td>LD50 15,900 mg/kg bw (rat)</td>
<td>LC50 (4 h) 888 mg/m³ air (rat)</td>
<td>No data available</td>
</tr>
<tr>
<td>Multifunctional Acrylate</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>Acrylated resin</td>
<td>TS</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Polyester Acrylate</td>
<td>TS</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>2-[[2,2-bis[[1-ooxooallyloxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl diacrylate</td>
<td>94108-97-1</td>
<td>LD50 5000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxybis(methyl-2,1-ethanediyl) diacrylate</td>
<td>57472-68-1</td>
<td>LD50 2810 - 4270 mg/kg bw (rat)</td>
<td>LC0 (7 h) 545 – 410,000 µg/m³ air (rat)</td>
<td>LD50 2000 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>Benzene (tetrapropenyl) derivatives</td>
<td>68512-02-7</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Pentaerythritol, ethoxylated, esters with acrylic acid</td>
<td>51728-26-8</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Vinylester Resin</td>
<td>TS</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Gans UVP-2002</td>
<td>TS</td>
<td>LD50 1340 - 2756 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Ethoxylated (3) Trimethylolpropane</td>
<td>28961-43-5</td>
<td>LD50 2 000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD50 13,200 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>2,6-di-tet-tbutyl-p-cresol</td>
<td>128-37-0</td>
<td>LD50 2930 - 6000 mg/kg bw (rat)</td>
<td>Data not available</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Rosin</td>
<td>8050-09-7</td>
<td>LD50 1000 - 5000 mg/kg bw (rat)</td>
<td>Data not available</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol, oligomeric reaction</td>
<td>55818-57-0</td>
<td>LD0 2000 mg/kg bw (rat)</td>
<td>Data not available</td>
<td>LD0 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Epoxy acrylate oligomer</td>
<td>TS</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Tris(N-hydroxy-N-nitrosophenylaminato-O,O')aluminium</td>
<td>15305-07-4</td>
<td>LD50 cut-off 500 mg/kg bw (rat)</td>
<td>No data available</td>
<td>No data available</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: Aquatic Hazard Acute 2, Aquatic Hazard Chronic 3
(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): Not classified as dangerous
(a) UN number: NA
(b) UN Proper Shipping Name: NA
(c) Transport hazard class: NA
(d) Packing Group: NA
(e) Environmental hazards: NA
(f) Transport in bulk
   MARPOL 73/78: NA
   IBC: NA
(g) Special Precautions: None known

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Section 8(b) Inventory Status: All ingredients of this mixture are listed on the TSCA Inventory

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:
   ○ aluminum powder (stabilised) CAS 7429-90-5 (as fume or dust)
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:
   ○ aluminum powder (stabilised) CAS 7429-90-5 (as fume or dust)
Pennsylvania Right to Know:
- aluminum powder (stabilised) CAS 7429-90-5 (as fume or dust)
- 2,6-di-tert-butyl-p-cresol CAS 128-37-0

Canadian Environmental Protection Act: Components Listed on Domestic Substance List: This mixture does not contain listed materials.

European Chemical Agency (ECHA):
Substances of Very High Concern (SVHC): 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.