Safety Data Sheet

SECTION 1: IDENTIFICATION

SDS Number: 513, version 10/29/2018

(a) Product identifier
Gans Item ID: UVR871, UVR872, UVR873, UVR874, UVR875, UVR876, UVR877

Gans Description: OS Rapi-Cure Gold, Rapi-Cure Gold, Rapi-Cure Copper, OS Rapi-Cure Silver

(b) Other means of identification
General description: UV-cure lithographic ink, metallic

(c) Recommended use
Product Use: Industrial use only
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 numbers:
Chemical spill or physical hazard: Contact the Local Emergency Response Agency 9-1-1 or the Local Fire Department
Ingestion or health hazard: Contact the National Capital Poison Center, Poison Control: 800 222-1222; Poison.org

SECTION 2: HAZARD(S) IDENTIFICATION

Physical hazards: Not classified as hazardous
Health hazards:
  o Acute Toxicity, Oral – Category 4
  o Eye Damage/Irritation – Category 2A
  o Sensitization, Skin – Category 1A

(b) Label elements
Signal Word: Warning
Hazard Statements: Harmful if swallowed; Causes serious eye irritation; May cause an allergic skin reaction

Precautionary Statements: Do not eat, drink or smoke when using this product. Wear eye protection/face protection. Wear protective gloves. Avoid breathing fume/mist/vapors/spray. Wash contaminated areas thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response:
IF SWALLOWED: Call a poison center/doctor if you feel unwell. Rinse mouth.
IF ON SKIN OR HAIR: Wash with plenty of water and mild soap. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Disposal: Dispose of contents/container to disposal recycling center. Waste management should be in full compliance with federal, state and local laws.

Hazard Pictograms:

(c) Hazards not otherwise classified: None known
(d) Ingredients of unknown acute toxicity: NA

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS # (TS = trade secret)</th>
<th>Conc. min. (wt. %)</th>
<th>Conc. max. (wt. %)</th>
</tr>
</thead>
<tbody>
<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>0.0%</td>
<td>75.4%</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>0.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>0.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Zinc</td>
<td>7440-66-6</td>
<td>0.0%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Dodecyl acrylate</td>
<td>2156-97-0</td>
<td>0.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Propyldiytenremethanol, ethoxylated, esters with acrylic acid</td>
<td>28961-43-5</td>
<td>0.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic acid</td>
<td>52408-84-1</td>
<td>0.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one</td>
<td>7078-98-0</td>
<td>0.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Monomer</td>
<td>TS</td>
<td>0.0%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Polyester acrylate</td>
<td>TS</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>
SECTION 4: FIRST AID MEASURES

(a) Description of first aid measures:
Inhalation: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing.
Skin contact: Wash with plenty of water and mild soap. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion: Call a poison center/doctor if you feel unwell. Rinse mouth.

(b) Most important symptoms and effects, both acute and delayed:
Ingestion: Harmful if swallowed
Inhalation: Data not available; Not classified as hazardous
Skin contact: May cause an allergic skin reaction
Eye contact: Causes serious eye irritation;

(c) Indication of any immediate medical attention and special treatment needed: Data not available.

SECTION 5: FIRE – FIGHTING MEASURES

(a) Extinguishing Media:
Suitable extinguishing media: Use CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Unsuitable extinguishing media: Water with full jet.

(b) Special hazards arising from the substance or mixture: None known

(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: Ensure adequate ventilation for general industrial environment.
(a.ii) Protective equipment: See Section 8 for details.
(a.iii) Emergency procedures: Follow your company emergency procedures.
(b) Methods for containment and cleaning up: Dike and contain spill. Soak up with inert absorbent material. Clean unabsorbed product with solvent and remove solvent with rags or shop towel.

SECTION 7: HANDLING AND STORAGE

(a) Precautions for safe handling: Do not eat, drink or smoke when using this product. Wear eye protection/face protection. Wear protective gloves. Avoid breathing fume/mist/ vapors/spray. Wash contaminated areas thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

(b) Conditions for safe storage: Store in cool, dry environment, with containers tightly sealed. Do not expose to direct sunlight, or to high heat.

Incompatibilities: No data available
SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

(a) Permissible exposure limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS #</th>
<th>ppm</th>
<th>mg/m³</th>
<th>8-hour TWA (ST)</th>
<th>STEL (C)</th>
<th>Ceiling</th>
<th>Up to 10-hour TWA (ST)</th>
<th>STEL (C)</th>
<th>Ceiling</th>
<th>8-hour TWA (ST)</th>
<th>STEL (C)</th>
<th>Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>No hazardous ingredients in this mixture appear in the form specified on OSHA Annotated Tables Z-1, Z-2, or Z-3.</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

(b) Appropriate engineering controls:
Ventilation requirements: Ensure adequate ventilation for general industrial environment.
General protective measures: Ensure that eye flushing /eye wash stations, and hand washing areas are accessible.

(c) Personal protective equipment:
Inhalation: Avoid breathing fume/mist/ vapors/spray. Where mist or aerosol is present, an organic vapor full facepiece respirator is recommended (to protect eyes and face as well).
Skin Contact: Wear protective gloves. Wash contaminated areas thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Neoprene or nitrile gloves are recommended. PVC gloves are not compatible.
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 gold, silver, or copper color
(b) Odor: Mild acrylate
(c) Odor threshold: Data not available
(d) pH: Not applicable
(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): Data not available
(j) Upper/ lower flammability explosion limits: Data not available
(k) Vapor Pressure: Data not available
(l) Vapor Density (Air = 1): Data not available
(m) Relative Density (H₂O = 1): Data not available
(n) Solubility: Not miscible with 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
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 alkalies 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: May cause an allergic skin reaction
Eye contact: Causes serious eye irritation;
Inhalation: Not classified as Hazardous
Ingestion: Harmful if swallowed, no other information available

(c) Delayed and immediate effects, and chronic effects from long-term exposure
- No data available

(d) Numerical measures of toxicity, acute:

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS # (TS= trade secret)</th>
<th>Oral</th>
<th>Inhalation</th>
<th>Dermal</th>
</tr>
</thead>
<tbody>
<tr>
<td>oligomeric reaction products</td>
<td>55818-57-0</td>
<td>LD0 2000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD0 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>LD50 300 - 2500 mg/kg bw (rat)</td>
<td>LC50 (4 h) 5.11 mg/L air (rat)</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Aluminum</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>Zinc</td>
<td>7440-66-6</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Dodecyl acrylate</td>
<td>2156-97-0</td>
<td>LD50 5570 mg/kg bw (rat)</td>
<td>LC50 (6 h) 690 mg/m³ air (rat)</td>
<td>LD50 5000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Propyldienetri methanol, ethoxylated,</td>
<td>28961-43-5</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD50 13,200 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>Glycerol, propoxylated,</td>
<td>52408-84-1</td>
<td>LD50 2 000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD50 2000 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>2,6-bis(1,1-dimethylethyl)</td>
<td>7078-98-0</td>
<td>LD50 5000 mg/kg bw (rat)</td>
<td>No data available</td>
<td>LD50 2000 mg/kg bw (rabbit)</td>
</tr>
<tr>
<td>Monomer</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>
</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: Not classified as Hazardous
(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. The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

SECTION 14: TRANSPORT INFORMATION

US DOT (Ground): Not regulated as a dangerous good
(a) UN number: UN3082
(b) UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s (copper powder, acrylate resin)
(c) Transport hazard class: 9
(d) Packing Group: III
(e) Environmental hazards: Marine pollutant
(f) Transport in bulk
   MARPOL 73/78: Data not available
   IBC: Data not available
(g) Special Precautions: None known

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations
TSCA Section 8(b) Inventory Status: All ingredients in this mixture are listed on the TSCA Chemical Inventory, or are not required to be listed.
EPCRA, Section 302 – Extremely hazardous substances: This mixture does not contain listed materials.
CERCLA Hazardous Substances:
   o Copper 7440-50-8 RQ = 5000
EPCRA Section 313 Toxic Chemicals:
   o Copper 7440-50-8
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:
   o Copper 7440-50-8

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o Aluminum 7429-90-5
o Zinc 7440-66-6

Oregon DEQ List of Air Toxic Contaminants:
o Copper 7440-50-8
o Aluminum 7429-90-5
o Zinc 7440-66-6

Pennsylvania Right to Know:
o Copper 7440-50-8
o Aluminum 7429-90-5
o Zinc 7440-66-6

Canadian Environmental Protection Act:
WHMIS Classification: No data available

European Chemical Agency (ECHA): 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.