Safety Data Sheet

SECTION 1: IDENTIFICATION

SDS Number: UVBP-2020, version 6/7/2018

(a) Product identifier
Gans Item ID: UVBP-2020

Gans Description: Initiator Blend - Dark Colors

(b) Other means of identification
General description: UV-cure printing ink additive

(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 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:
  o Acute Toxicity, Oral – Category 4
  o Toxic to Reproduction – Category 1B
  o Specific Target Organ Toxicity, Repeat Exposure – Category 2

Environmental:
  o Hazardous to the Aquatic Environment, Chronic – Category 2
(b) Label elements

Signal Word: Danger

Hazard Statements: Harmful if swallowed; May damage fertility or the unborn child; May cause damage to organs through prolonged or repeated exposure (oral)

Toxic to aquatic life with long lasting effects;

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. Do not breathe fume/mist/ vapors/spray. Do not eat, drink or smoke when using this product. Wash contaminated areas thoroughly after handling.
Avoid release to the environment.

Response: If exposed or concerned: Get medical advice/attention.
IF SWALLOWED: Call a poison center/doctor if you feel unwell. Get medical advice/attention if you feel unwell Rinse mouth.

Storage: Store locked up

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
None known

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 # (TS = trade secret)</th>
<th>Conc. min. (wt. %)</th>
<th>Conc. max. (wt. %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gans photoinitiator UVP-2002</td>
<td>TS</td>
<td></td>
<td>28.5%</td>
</tr>
<tr>
<td>Gans photoinitiator UVP-2004</td>
<td>TS</td>
<td></td>
<td>28.5%</td>
</tr>
<tr>
<td>Gans photoinitiator UVP-2009</td>
<td>TS</td>
<td></td>
<td>24.0%</td>
</tr>
<tr>
<td>Gans photoinitiator UVP-2013</td>
<td>TS</td>
<td></td>
<td>19.0%</td>
</tr>
</tbody>
</table>
SECTION 4: FIRST AID MEASURES

(a) Description of first aid measures:
Ingestion: Call a poison center/doctor if you feel unwell. Get medical advice/attention if you feel unwell. Rinse mouth.
Inhalation: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing.
Skin contact: Gently wash with plenty of water and soap. Take off contaminated clothing and wash it before reuse.
Eye contact: Rinse cautiously with water for several minutes.

(b) Most important symptoms and effects, both acute and delayed:
Ingestion: Harmful if swallowed; May damage fertility or the unborn child; May cause damage to organs through prolonged or repeated exposure (oral).
Inhalation: May cause damage to organs through prolonged or repeated exposure (oral).
Skin contact: Data not available. Not classified as hazardous
Eye contact: Data not available. Not classified as hazardous

(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, dry chemical, fire-fighting foam, or water fog extinguishing media.
Unsuitable extinguishing media: Do not use water stream. Water stream or spray is OK to cool unopened containers only.

(b) Special hazards arising from the substance or mixture: Combustion releases COₓ gases.

(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. Use personal protective equipment.

(a.ii) Protective equipment: Chemical resistant gloves are recommended, see Section 8 for details.

(a.iii) Emergency procedures: If dangerous conditions exist, contact emergency response personnel, follow emergency procedures, and contact emergency response authorities.

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Follow your company’s emergency spill response procedure. Do not allow spillage to enter storm drains or water ways, or to flow onto natural earth.

(b) Methods for containment and cleaning up:
Dike and contain spill. For large spills remove by mechanical means and place in containers. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Avoid release to the environment.
SECTION 7: HANDLING AND STORAGE

(a) Precautions for safe handling:
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. Do not breathe fume/mist/ vapors/spray. Do not eat, drink or smoke when using this product. Wash contaminated areas thoroughly after handling.

(b) Conditions for safe storage:
Store locked up. Store in cool, dry conditions. Keep containers sealed. Protect from heat and direct sunlight. Do not store at temperatures above 104 °F (40 °C)

Incompatibilities: Keep away from strong acids and bases.

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

(b) Appropriate engineering controls:
Ventilation requirements: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

General protective measures: Ensure that eye flushing /eye wash stations, and hand washing areas are accessible.

(c) Personal protective equipment:
Inhalation: Do not breathe fume/mist/ vapors/spray. Where fume/mist/ vapors/spray is present, an organic vapor, full-face respirator is recommended (face protection included).

Skin Contact: Wear protective gloves, and protective clothing. Contaminated work clothing must not be allowed out of the workplace. Nitrile gloves are recommended: for example, Ansell Sol-Vex, nitrile.


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): Liquid, pale yellow color
(b) Odor: Data not available
(c) Odor threshold: Data not available
(d) pH: NA
(e) Melting point/ freezing point: Data not available; gel point ~ 35 °F (~1.7 °C)
(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 (mm Hg @ 68°F): Data not available
(l) Vapor Density (Air = 1): Data not available
(m) Relative Density (H₂O = 1): 1.1
(n) Solubility: Data not available
(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

SECTION 10: STABILITY AND REACTIVITY INFORMATION

(a) Reactivity: Reactivity similar to strong acids, strong bases, and oxidizing agents.
(b) Chemical stability: Mixture is chemically stable at ambient temperatures and pressures.
(c) Possibility of hazardous reactions: May polymerize when exposed to high temperature [104 °F (40 °C)], or in direct sunlight.
(d) Conditions to avoid: Keep away from open flames, sparks, hot surfaces and sources of ignition.
(e) Incompatible materials: Strong acids, strong oxidizers.
(f) Hazardous decomposition product: Heating and thermal decomposition may yield hazardous gases.

SECTION 11: TOXICOLOGICAL INFORMATION

(a) Likely routes of exposure: Skin contact, eye contact, inhalation, and ingestion.

(b) Symptoms related to physical, chemical, and toxicological characteristics:
Skin contact: Data not available. Not classified as hazardous
Eye contact: Data not available. Not classified as hazardous
Inhalation: May cause damage to organs through prolonged or repeated exposure (oral).
Ingestion: Harmful if swallowed; May damage fertility or the unborn child; May cause damage to organs through prolonged or repeated exposure (oral)

(c) Delayed and immediate effects, and chronic effects from long-term exposure
May cause genetic defects. May cause cancer.

(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>Gans UVP-2002</td>
<td>TS</td>
<td>LD50 1340 - 2756 mg/kg bw (rat)</td>
<td>Data not available</td>
<td>LD50 2000 mg/kg bw (rat)</td>
</tr>
<tr>
<td>Gans UVP-2004</td>
<td>TS</td>
<td>Data not available</td>
<td>Data not available</td>
<td>Data not available</td>
</tr>
<tr>
<td>Gans UVP-2009</td>
<td>TS</td>
<td>LD50 1470 mg/kg bw (rat)</td>
<td>Data not available</td>
<td>Data not available</td>
</tr>
<tr>
<td>Gans UVP-2013</td>
<td>TS</td>
<td>LD50 2000 mg/kg bw (rat)</td>
<td>Data not available</td>
<td>LD50 2000 mg/kg bw (rat)</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:
- Hazardous to the Aquatic Environment, Chronic – Category 2

(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):
(a) UN number: UN3082
(b) UN Proper Shipping Name: Environmentally Hazardous Substance N.O.S. (Mixture)
(c) Transport hazard class: 9
(d) Packing Group: PG III
(e) Environmental hazards: No data available
(f) Transport in bulk
   MARPOL 73/78: No data available
   IBC: No data available.
(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: This mixture does not contain listed materials.
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: This mixture does not contain listed materials.
Oregon DEQ List of Air Toxic Contaminants: This mixture does not contain listed materials.
Pennsylvania Right to Know: This mixture does not contain listed materials.

Canadian Environmental Protection Act:
WHMIS Classification: No data available

European Chemical Agency (ECHA)
Candidate List of Substances of Very High Concern (SoVHC): 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.