Material Safety Data Sheet #336  
For Printing Inks and related Materials  

Origination date: 03/14/07  
Updated: 02/02/09

I. PRODUCT IDENTIFICATION

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS #</th>
<th>%</th>
<th>Exposure Limits</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>Proprietary Ingredients</td>
<td>N/A</td>
<td>53 - 65 %</td>
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</tr>
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<td>Ink Vehicles</td>
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<td>35 - 47 %</td>
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II. HMIS HAZARD IDENTIFICATION

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
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</table>

III. HAZARDOUS INGREDIENTS

None

III. COMPOSITION INGREDIENTS

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IV. PHYSICAL DATA

- Boiling Range °F: N/A
- Relative Density (H₂O = 1): 0.88 – 1.02
- Material Density Lbs./Gal: 7.34 – 8.51
- Vapor Density (Air = 1): N/A
- Vapor Pressure (mm Hg @ 70°F): N/A
- Solubility in Water: Insoluble
- % Volatiles by Weight: 1 - 3
- % Solids by Weight: 97 - 99
- VOC Lbs/Gal: .26 Max. g/L: 31
- Appearance/Odor: Colored oily paste

V. FIRE AND EXPLOSION DATA

- Flash Point °F: N/A
- Auto-ignition Temperature °F: N/A
- Flammable Limits in Air: N/A
- Upper Limit: N/A
- Extinguishing Media: Use water fog, foam, CO₂, or dry chemical extinguishing media.
- Special Fire Fighting Procedures: Water may be ineffective, but can be used to cool containers exposed to heat or flame.
- Unusual Fire & Explosion Hazard: Dense smoke may be generated while burning, carbon dioxide, carbon monoxide, and other oxides may be generated as products of combustion

VI. HEALTH HAZARD INFORMATION

**Effects of Overexposure**

Inhalation: This product has a low vapor pressure and is not expected to present an inhalation hazard at ambient conditions. Caution should be taken to prevent aerosolization or misting of this product. The threshold limit value (TLV) for this product as oil mist is 5 mg/M³. Exposures below 5 mg/M³ appear to be without significant health risk. Acute overexposure may result in irritation of the throat and lungs.

Skin Contact: Avoid skin contact. This product is non-irritating to the skin upon direct contact. Prolonged or repeated contact may result in contact dermatitis which is characterized by dryness, chapping, and reddening.

Eye Contact: Avoid eye contact. This product may be slightly irritating to the eyes upon direct contact. This product has a low vapor pressure and is not expected to present a hazard to the eyes at ambient conditions. Exposure to high concentrations of vapors may be irritating to the eyes.

Ingestion: Do not ingest. May cause local irritation of mouth, esophagus and stomach.

**Emergency & First Aid Procedures**

Eyes: Immediately flush eyes with large amounts of water and continue flushing for 15 minutes until irritation subsides. If irritation persists, seek medical attention.

Skin: Remove contaminated clothing. Wash contaminated area thoroughly 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. 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 of aspiration. Gastrointestinal discomfort may develop, followed by vomiting, with risk of aspiration.

VII. REACTIVITY INFORMATION

| Stability (Thermal, Light, etc.): Stable | Conditions to avoid: Excessive heat and contact with strong oxidizers |
| Hazardous Polymerization: Will not occur | Conditions to avoid: None |
| Hazardous Decomposition Products: CO₂, CO, and other oxides may be generated as products of combustion. |

VIII. ENVIRONMENTAL PRECAUTIONS

Steps to be taken in event of spill or release: Scrape up with trowel or scoop and place in a suitable container. Clean up with a suitable solvent.

Waste Disposal Method: If recycling as ink is not possible, material may be incinerated or land filled at a licensed facility in accordance with local, state, and federal regulations.

IX. SPECIAL PROTECTION INFORMATION

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: 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.

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.

X. SPECIAL PRECAUTIONS

Handling and Storage: Store in containers in a cool, well-ventilated area. Consumption of food and beverages should be avoided in work areas.

Other Precautions: For industrial use only. Do not ingest. Avoid prolonged contact with skin, contact with eyes, and breathing of mist or vapor.

XI. SHIPPING DATA

OSHA: Class III B
DOT: Not Regulated

XII. ADDITIONAL NOTES

TSCA (Toxic Substances Control Act)
All component(s) of this product are either exempt or listed on the TSCA Inventory.

SARA (Superfund Amendments and Reauthorization Act of 1986) Title III:
SARA Section 313 Toxic Chemical List (TCL):
This product is not known to contain any SARA Title III, Section 313 Reportable Chemicals at or greater than 1.0% (0.1% for carcinogens).

State and Local Regulations
California Proposition 65:
This product contains chemicals known to the state of California to cause cancer

<table>
<thead>
<tr>
<th>Chemical Name</th>
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<th>%</th>
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<tbody>
<tr>
<td>Carbon Black</td>
<td>1333-86-4</td>
<td>0.15 %</td>
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Inks sold by Gans Ink and Supply Co, Inc., are not formulated with the following materials:

I/ Hazardous Materials: chemicals that are known to present a hazardous exposure to users of the product, or to
purchasers of printed materials under normal conditions of use or in foreseeable emergency situations (OSHA). All exceptions are noted in the Hazardous Ingredients portion of the product Material Safety Data Sheet (MSDS).

2/ Toxic Substances: any raw materials that are not registered on the Toxic Substances Control Act Inventory of Chemical Substances (TSCA).

3/ Heavy Metals: pigments or other materials based on Lead, Cadmium, Hexavalent Chromium, or Mercury. Trace amounts of these heavy metals is expected to be less than 100 parts per million (ppm) (mg/kg). (California Toxins in Packaging Prevention Act; CONEG Certification; Article 11 of EU 94/62/EC). Trace amount of lead is expected to be less than 90 ppm (Consumer Product Safety Improvement Act of 2008; Sec. 101; effective August 14, 2009) (1).

4/ Drinking Water Toxins: any substances listed pursuant to the California Safe Drinking Water and Toxic Enforcement Act (Proposition 65) in an amount that would require a warning to users of the product, or to purchasers of printed materials using these products. All exceptions are noted in the Hazardous Ingredients portion of the product MSDS.

5/ Ozone Depleting Substances: any Class I or Class II Ozone depleting chemicals listed under the Clean Air Act Amendments of 1990, and do not require any warning related to such chemicals.


7/ Phthalates: phthalates commonly used as plasticizers in the plastics industry. These include DEHP, DBP, BBP, DINP, DIDP and DnOP. Total trace amounts of any phthalates is expected to be less than .1% (Consumer Product Safety Improvement Act of 2008, Sec. 108) (1) (California Health and Safety Code, Section 108937) (1).


Additional considerations for producers of children's books, toys and other products

Our litho offset inks (including offset sublimation) also conform to the requirements of the following:


2/ CFR Title 16 (1): Code of Federal Regulation, Title 16, Section 1303 Lead content limit: ≤ 0.06 percent of the weight of the total nonvolatile content.

3/ ASTM F-963 (1, 2): ASTM Standard F-963 limits for heavy metal content of soluble surface coating material: Antimony 60 ppm, Arsenic 25 ppm, Barium (2) 1000 ppm, Cadmium 75 ppm, Chromium 60 ppm, Lead 90 ppm, Mercury 60 ppm, and Selenium 500 ppm

4/ EN71-3:1994 (1, 2), BS5665-3:1995 (1, 2): Specifications for Migration of Certain Elements, limits: Antimony 60 ppm, Arsenic 25 ppm, Barium (2) 500 ppm, Cadmium 75 ppm, Chromium 60 ppm, Lead 90 ppm, Mercury 60 ppm, and Selenium 500 ppm

5/ California Health and Safety Code, Section 108937 (1): Phthalates DEHP, DBP, BBP, DINP, DIDP and DnOP content limit: ≤ .1%.

6/ Consumer Product Safety Improvement Act of 2008 (1);
Sec. 101 Lead content limit: ≤ 0.009 percent
Sec. 108 Phthalates DEHP, DBP, BBP, DINP, DIDP and DnOP content limit: ≤ .1%

(1) This standard does not apply to printing ink, but may apply to an end product made from printing ink (e.g. CFR Title 16, Sec. 1303.2 Definitions: “does not include printing inks”). Gans Ink products conform to these standards to help our customers produce fully compliant and safe products. It is the responsibility of the manufacturer of such regulated end products to perform required tests to assure the entire end product is compliant.

(2) Manufacturers under jurisdiction of these standards should be cautious when using any coating that contains warm red pigments like Pantone® Warm Red, and Pantone® Red 032. The following pigments contain barium compounds: Permanent Red 2B/Pigment Red 48:1, CAS 7585-41-3; Red Lake C/Pigment Red 53:1, CAS 5160-
02-1; Lithol Red/Pigment Red 49:1, CAS 1103-38-4. A Gans technical representative will be happy to help you find alternatives.

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.