



AFTER-THE-FACT MODIFICATION TO REGULATION 13 PERMIT R13-2317F

Prepared for:

DALB, Inc.

105 Industrial Blvd.
Kearneysville, West Virginia 25430

Prepared by:

Potesta & Associates, Inc.

7012 MacCorkle Avenue, S.E.
Charleston, West Virginia 25304
Phone: (304) 342-1400 Fax: (304) 343-9031
Email: potesta@potesta.com

Project No. 0101-16-0109-010

December 2016



POTESTA

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Attachments Not Applicable to this Application: M, Q, R and S.

SECTIONS I - III
GENERAL INFORMATION



WFST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

**APPLICATION FOR NSR PERMIT
AND
TITLE V PERMIT REVISION
(OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO NSR (45CSR13) (IF KNOWN):

- CONSTRUCTION MODIFICATION RELOCATION
 CLASS I ADMINISTRATIVE UPDATE TEMPORARY
 CLASS II ADMINISTRATIVE UPDATE AFTER-THE-FACT

PLEASE CHECK TYPE OF 45CSR30 (TITLE V) REVISION (IF ANY):

- ADMINISTRATIVE AMENDMENT MINOR MODIFICATION
 SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS ATTACHMENT S TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office): DALB, Inc.		2. Federal Employer ID No. (FEIN): 55-0616156	
3. Name of facility (if different from above):		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: 105 Industrial Blvd. Kearneysville, WV 25430		5B. Facility's present physical address 105 Industrial Blvd. Kearneysville, WV 25430	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES, provide a copy of the Certificate of Incorporation/Organization/Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A . ⇒ If NO, provide a copy of the Certificate of Authority/Authority of L.L.C./Registration (one page) including any name change amendments or other Business Certificate as Attachment A .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation: NA			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES, please explain: Applicant owns the site. ⇒ If NO, you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be constructed, modified, relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): Commercial Printing		10. North American Industry Classification System (NAICS) code for the facility: 323113	
11A. DAQ Plant ID No. (for existing facilities only): 037-00061		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): R13-2317F	

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- ⇒ For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide **directions to the present location** of the facility from the nearest state road;
- ⇒ For **Construction** or **Relocation permits**, please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

From I-81S, take Exit 12 and travel on WV-45E/WV-9E. Take County Route 8/Wiltshire Road Exit toward Bardane and turn right onto Wiltshire Road. In approximately 1.1 miles, turn left onto Industrial Boulevard and arrive at destination on left.

12.B. New site address (if applicable): NA	12C. Nearest city or town: Kearneysville	12D. County: Jefferson
12.E. UTM Northing (KM): 4,359.433	12F. UTM Easting (KM): 252.027	12G. UTM Zone: 18

13. Briefly describe the proposed change(s) at the facility:
Installation of three (3) Vutek printers; installation of thermoforming / trimming; removal of Inca UV Printer; removal of two (2) Sign Lines and two (2) propane dryers; removal of one (1) Decal Line; update of flavor card process / installation of Presstek Printer and Finishing Press.

14A. Provide the date of anticipated installation or change: ⇒ If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: 2016	14B. Date of anticipated Start-Up if a permit is granted: Currently operating.
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14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
24 Hours Per Day 7 Days Per Week 52 Weeks Per Year

16. Is demolition or physical renovation at an existing facility involved? **YES** **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (*if known*). A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance (*if known*). Provide this information as **Attachment D**.

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to *Plot Plan Guidance*).
Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F**.

23. Provide a **Process Description** as **Attachment G**.
Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.
 For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I**.

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J**.

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K**.

28. Check all applicable **Emissions Unit Data Sheets** listed below:

<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry
<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities
<input type="checkbox"/> Concrete Batch Plant	<input type="checkbox"/> Incinerator	<input type="checkbox"/> Storage Tanks
<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger	

General Emission Unit, specify Sign Lines 1, 2, and 3; Sign In Line; Decal Line 1; Decal In Line; Small Format Digital Printing; Vutek Printers; Clean Up Solvents; Thermoforming/Trimming

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L**.

29. Check all applicable **Air Pollution Control Device Sheets** listed below: NA

<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Flare
<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector
<input type="checkbox"/> Afterburner	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System

Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M**.

30. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.

➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and *Example Legal Advertisement* for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

YES NO

➤ If **YES**, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "*Precautionary Notice – Claims of Confidentiality*" guidance found in the *General Instructions* as **Attachment Q**.

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

<input type="checkbox"/> Authority of Corporation or Other Business Entity	<input type="checkbox"/> Authority of Partnership
<input type="checkbox"/> Authority of Governmental Agency	<input type="checkbox"/> Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R**.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned **Responsible Official** / **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____

(Please use blue ink)

DATE: _____

12/5/16

(Please use blue ink)

35B. Printed name of signee: Kevin L. Steeley

35C. Title: President

35D. E-mail: k.steeley@dalb.com

36E. Phone: (304) 725-0300

36F. FAX: Use Email

36A. Printed name of contact person (if different from above): Craig Kershner

36B. Title: Director of Quality Assurance and Compliance

36C. E-mail: c.kershner@dalb.com

36D. Phone: (304) 725-0300

36E. FAX: Use Email

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Attachment A: Business Certificate | <input checked="" type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet |
| <input checked="" type="checkbox"/> Attachment B: Map(s) | <input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s) |
| <input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule | <input type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s) |
| <input checked="" type="checkbox"/> Attachment D: Regulatory Discussion | <input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations |
| <input checked="" type="checkbox"/> Attachment E: Plot Plan | <input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans |
| <input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s) | <input checked="" type="checkbox"/> Attachment P: Public Notice |
| <input checked="" type="checkbox"/> Attachment G: Process Description | <input type="checkbox"/> Attachment Q: Business Confidential Claims |
| <input checked="" type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS) | <input type="checkbox"/> Attachment R: Authority Forms |
| <input checked="" type="checkbox"/> Attachment I: Emission Units Table | <input type="checkbox"/> Attachment S: Title V Permit Revision Information |
| <input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet | <input checked="" type="checkbox"/> Application Fee |

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- Forward 1 copy of the application to the Title V Permitting Group and:
- For Title V Administrative Amendments:
 - NSR permit writer should notify Title V permit writer of draft permit.
- For Title V Minor Modifications:
 - Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt.
 - NSR permit writer should notify Title V permit writer of draft permit.
- For Title V Significant Modifications processed in parallel with NSR Permit revision:
 - NSR permit writer should notify a Title V permit writer of draft permit.
 - Public notice should reference both 45CSR13 and Title V permits.
 - EPA has 45 day review period of a draft permit.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A
BUSINESS CERTIFICATE

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

**ISSUED TO:
DALB INC
73 INDUSTRIAL BLVD
KEARNEYSVILLE, WV 25430-2733**

BUSINESS REGISTRATION ACCOUNT NUMBER: 1037-9102

This certificate is issued on: 07/5/2011

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.
This certificate shall be permanent until cessation of the business for which the certificate of registration
was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new
certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of
this certificate displayed at every job site within West Virginia.

ATTACHMENT B

AREA MAP



DATE: October 2016

PROJECT NO. 0101-16-0109-010

MAPPING FOR VISUAL REPRESENTATION ONLY

SITE LOCATION MAP
DALB, INC.
KEARNEYSVILLE, JEFFERSON
COUNTY, WV
NOT TO SCALE

ATTACHMENT C

INSTALLATION AND START UP SCHEDULE

ATTACHMENT C

INSTALLATION AND STARTUP SCHEDULE

One (1) Vutek printer was installed at the facility in 2013, a second Vutek printer was installed in 2014, and a third was installed in 2016. All printers are currently operating.

Thermoforming / Trimming was installed in 2015 and is currently operating. An additional thermoforming unit is proposed for future installation (date of installation has not been set).

The Presstek UV Printer and UV Finishing Press were installed in 2010 and are currently operating.

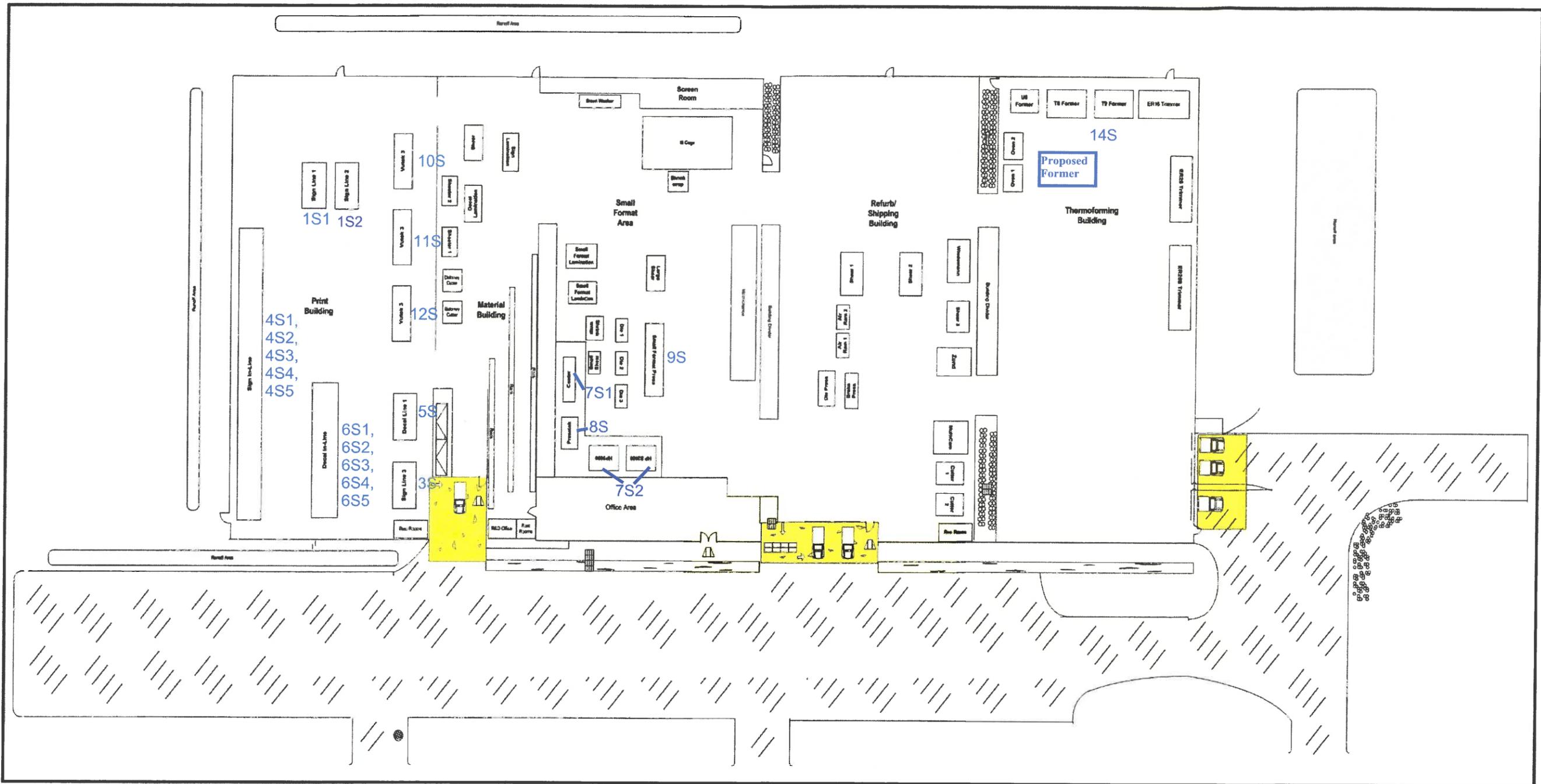
ATTACHMENT D
REGULATORY DISCUSSION

ATTACHMENT D

REGULATORY DISCUSSION

The majority of the revisions requested in this application do not modify the regulatory basis of the permit/site. The one addition to regulatory applicability is Regulation 7 (45CSR7). The thermoformed panels are first thermally formed (pressed and molded) and then the panel is cut and trimmed from the solid thermal formed panel. This process has a potential for dust emissions. The potential to emit for the system has been set using the process weight rate in Table 45-7A.

ATTACHMENT E
PLOT PLAN



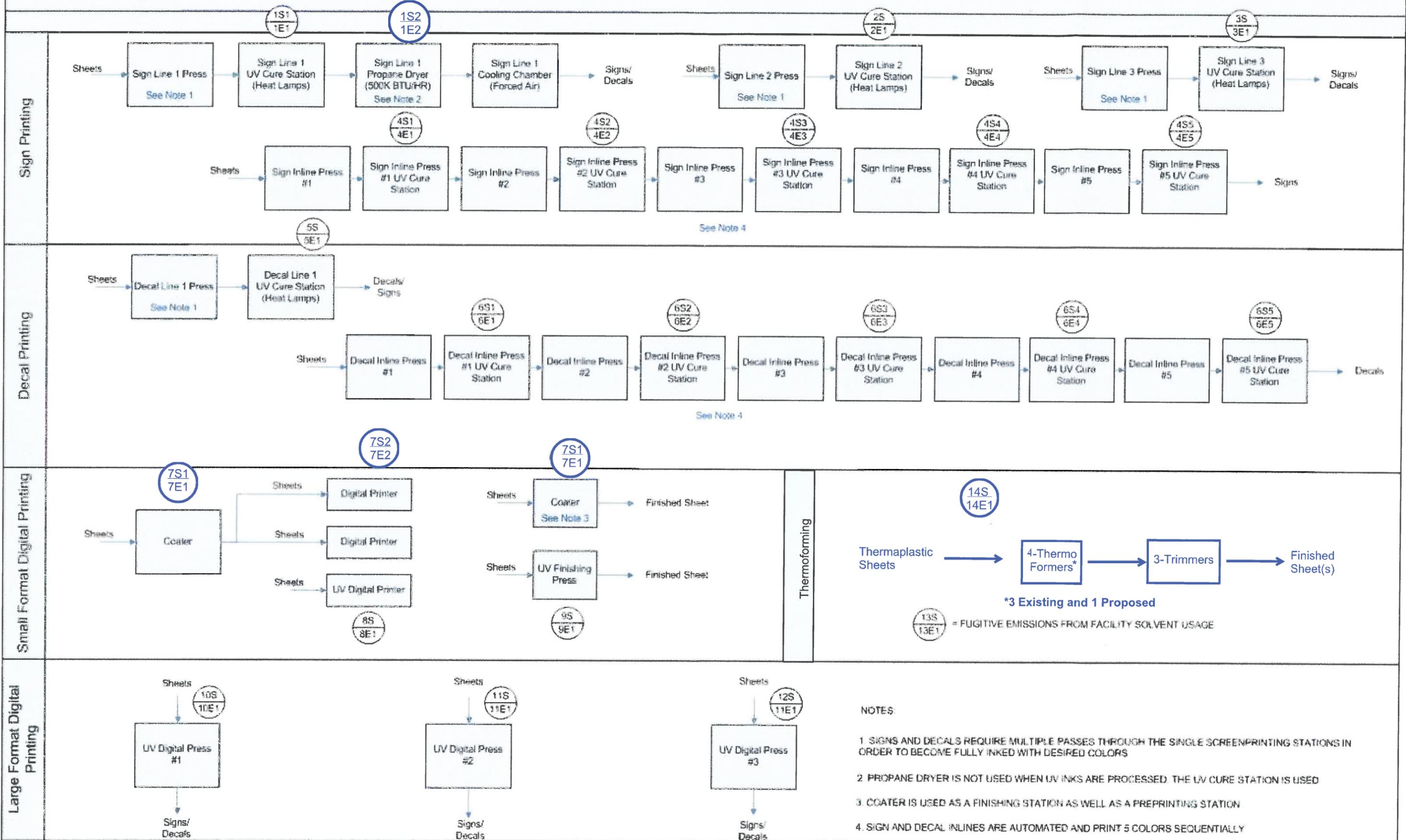
7012 MacCorkle Avenue, S.E
 Charleston, West Virginia 25304
 Phone: (304) 342-1400
 Fax: (304) 343-9031

DALB Inc.
 Jefferson County, West Virginia
 Project No. 0101-16-0109-010

ATTACHMENT F

DETAILED PROCESS FLOW DIAGRAM

Process Flow Diagram



ATTACHMENT G
PROCESS DESCRIPTION

ATTACHMENT G

PROCESS DESCRIPTION

DALB, Inc. (DALB) operates printing lines which produce high quality sign and decal graphics for the beverage vending machine industry, flavor card process, and specialty event tickets and passes. In producing these finished products, DALB utilizes various ultraviolet (UV) inks and solvent based inks. Each printing line is equipped with a drying system, which consists of either a propane oven, UV oven, both propane and an UV oven or electric oven. In addition to the printing inks, other solvents are used throughout the facility for cleanup and maintenance. The calculations, which have been included in this application, indicate the worst case scenario for emissions. Volatile Organic Compound emissions have been based on the maximum volatile content in the materials used with the assumption that the entire volatile content is released to atmosphere.

Vutek Printers

DALB removed the Inca UV Printer and replaced it with three (3) Vutek Printers. The Inca UV Printer was installed as a low production item used for specialty jobs. The printer's maximum usage rate was 0.10 gallons per hour and 500 gallons per year of UV ink. The maximum usage for each Vutek printer is 0.54 gallons per hour and 4,730 gallons per year of UV Inks.

Small Format Digital Printing

We are requesting that the Flavor Card Process be renamed Small Format Digital Printing. The Flavor Card process was previously permitted with emission units of pre-coater exhaust and clear coater exhaust. This permit application seeks to update the permit to include two (2) digital printers in the process as emission units. The emissions estimate for Small Format Digital Printing has been updated in this application with the printers as emission units in addition to updates to ink and clear coat usage and type for all emissions units.

A Prestek UV Digital Printer and UV Finishing Press have been added to Small Format Digital Printing.

The Small Format Digital Printers are comparable to office style printers and photocopiers which periodically need replaced. DALB requests the flexibility to replace these printers as needed with equivalent units.

Thermoforming and Trimming

DALB added thermoforming and trimming to their operation in 2015. This process allows DALB to create three-dimensional formed products from thermoplastic sheets of any thickness. There are three (3) existing thermoformers and one (1) proposed thermoformer which generate negligible particulate emissions and are supplied heat electrically. Particulate emissions are generated from the three (3) new trimmers.

Site Changes

Sign Line 2, Sign Line 4, and Decal Line 2 have been removed from the facility. A new building adjacent to the existing building was added to house the thermoforming/trimming process equipment, and several pieces of equipment have been moved to new locations around the facility (see Attachment E).

ATTACHMENT H
SAFETY DATA SHEETS (SDS)

800820



Material Safety Data Sheet
Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Oct-26-2010

Revision Date Oct-26-2010

PRODUCT AND COMPANY IDENTIFICATION

Product code 60018288KI
Product name Special Primer
Product description Ink Product

Manufacturer or supplier's details
UNITED STATES
Nazdar Company
8501 Hedge Lane Terrace
Shawnee, KS 66227
Tel: 1-913-422-1888
Tel: 1-800-677-4657
Fax: 1-913-422-2294

UNITED KINGDOM
Nazdar Limited
7 Barton Road
Heaton Mersey Industrial Estate
Stockport, Cheshire SK4 3EG
Tel: +44 161 442 2111

Emergency Telephone Number
USA: Chemtrec: 1-800-424-9300
Outside USA: Chemtrec: 1-703-527-3887

Website: www.nazdar.com
MSDS Information: 1-913-422-1888 ext 2305
MSDS Contact: Regulatory Compliance
email: regcomp@nazdar.com

This product is a preparation. Health hazard information is based on its components.

Appearance
Flammable Properties
Emergency Overview

Water-white
FLAMMABLE LIQUID AND VAPOR.
Irritant. May cause drowsiness and dizziness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Eyes
Skin

Severe eye irritant. May cause permanent eye injury.
May cause skin irritation. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.
May cause irritation of respiratory tract. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Inhalation

Ingestion

Component	CAS-No	Weight %
n-Propyl alcohol	71-23-8	60 - 100

Eye Contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

Skin Contact

Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

Inhalation

Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

Ingestion

If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

Flammable Properties	FLAMMABLE LIQUID AND VAPOR.
Suitable Extinguishing Media	Foam. Carbon dioxide (CO2). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
Specific Hazards Arising from the Chemical	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes. Keep product and empty container away from heat and sources of ignition. Risk of ignition.

Personal Precautions	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Methods for Cleaning Up	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
Environmental Precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Handling	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label.

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Ontario TWAEV	Mexico OEL (TWA)
n-Propyl alcohol	TWA: 100 ppm	TWA: 200 ppm TWA: 500 mg/m ³ STEL: 625 mg/m ³	800 ppm	TWA: 100 ppm	TWA: 200 ppm TWA: 500 mg/m ³ STEL: 250 ppm STEL: 625 mg/m ³

Engineering Measures Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal Protective Equipment
Respiratory Protection Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
Eye Protection Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
Skin Protection Wear protective gloves/clothing. Solvent-resistant apron and boots.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.



Appearance	Water-white	Physical State	Liquid
Odor	Characteristic	Odor Threshold	No information available
pH	No information available	Autoignition Temperature	No information available
Boiling point/Boiling Range	>149°C / >300°F	Melting Point/Range	No information available
Freezing Point/Range	No information available	Solubility	No information available
Evaporation Rate	No information available	Partition Coefficient (n-octanol/water)	No information available
Vapour Pressure	No information available	Vapour Density	Heavier than air
Flammability (solid, gas)	No information available	Flash Point Method	23°C / 73°F Closed cup (Minimum)
Flammability Limits in Air		Photochemically Reactive	No
Upper No information available			
Lower No information available			
Weight Per Gallon (lbs/gal)	6.832	Specific Gravity	0.819
VOC by weight %	90	VOC by volume %	91.638
VOC lbs/gal (less water)	6.155	VOC grams/liter (less water)	737.531



Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Products	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO ₂). Carbon monoxide.
Possibility of Hazardous Reactions	None under normal processing.



Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
n-Propyl alcohol	1870 mg/kg (Rat)		13548 ppm (Rat) 4 h

Chronic Toxicity

No information available

Sensitisation	No information available
Mutagenic Effects	No information available.
Reproductive Effects	No information available
Developmental Effects	No information available
Teratogenicity	No information available

Chronic Effects

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effect, such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Central nervous system, Eyes, Gastrointestinal tract, Respiratory system, Skin.

Target Organ Effects



Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
n-Propyl alcohol		96 Hr LC50 Pimephales promelas: 4480 mg/L [flow-through]	48 Hr EC50 Daphnia magna: 3642 mg/L

Persistence and Degradability No information available
Bioaccumulation No information available
Mobility in Environmental Media No information available

Component	log Pow
n-Propyl alcohol	0.25 - 0.34



Waste Disposal Methods

Dispose of contents/container in accordance with local regulation.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.



DOT

UN1210, Printing Ink Related Material, 3, III

ICAO/IATA

UN1210, Printing Ink Related Material, 3, III

IMDG/IMO

UN1210, Printing Ink Related Material, 3, III



International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
 This product does not contain any HAPs.

U.S. State Regulations

State Right-to-Know

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
n-Propyl alcohol	Not Listed	Not Listed	X	X	X	X

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
n-Propyl alcohol	B2, D2B

Component	NPRI - National Pollutant Release Inventory
n-Propyl alcohol	Part 4 Substance

REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006
Does NOT contain a listed substance

HMIS:	Health 2*	Flammability 3	Reactivity 0	PPE X
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Revision Date Oct-26-2010
Revision Summary New MSDS format

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of MSDS



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Identification of the preparation HP Imaging Agent *S2000*
MCH-0061-41

Product use HP product for use with HP Indigo Digital Presses 1000 series, 2000 series.

Version # 04

Revision date 04-Aug-2011

Company identification Hewlett-Packard Company
3000 Hanover Street
Palo Alto, CA 94304-1185
United States
Telephone 650-857-1501

Hewlett-Packard health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-503-494-7199
HP Customer Care Line
(Toll-free within the US) 1-800-474-6836
(Direct) 1-208-323-2551
Email: hpcustomer.inquiries@hp.com

2. Hazards Identification

Emergency overview Contact with skin and eyes may result in irritation.

Acute health effects

Skin contact Any potential hazards are presumed to be due to exposure to the components.
Petroleum hydrocarbon
Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Eye contact Contact with eyes may cause irritation. High concentration of product vapors can cause severe irritation of eyes. Slightly irritating but does not injure eye tissue and Direct contact with the eye may cause discomfort and redness.
Petroleum hydrocarbon
Slightly irritating but does not injure eye tissue. Direct contact with the eye may cause discomfort and redness.

Inhalation *Petroleum hydrocarbon*
Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion Ingestion of this product may cause nausea, vomiting and diarrhea.
Harmful if swallowed.
Petroleum hydrocarbon
Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Potential health effects

Routes of exposure Potential routes of exposure to this product are skin and eye contact, ingestion and inhalation.

Chronic health effects Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

Carcinogenicity None of the components present in this formulation at concentrations equal to or greater than 0.1% are listed by EU, MAK, IARC, NTP or OSHA.

Other information This product is classified for health effects according to EU Directive 1999/45/EC with R65, 66.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Petroleum hydrocarbon	90622-58-5	80 - 90

Trade Secret	Proprietary	2.5 - 5
Trade Secret	Proprietary	0 - 1
Composition comments	This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).	

4. First Aid Measures

First aid procedures

Eye contact	Do not rub eyes. Immediately flush with large amounts of clean, warm water (low pressure) for at least 15 minutes or until particles are removed. If irritation persists get medical attention. Do not apply neutralizing agents.
Skin contact	Wash affected areas thoroughly with mild soap and water. Immediately take off all contaminated clothing. Wash clothing separately before reuse. Get medical attention if irritation develops or persists.
Inhalation	If overcome by vapor, remove person from exposure to fresh air. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media	Suitable extinguishing media: Dry chemical, CO ₂ , water spray or regular foam.
Unsuitable extinguishing media	None known.

Protection of firefighters

Specific hazards arising from the chemical	None known.
Protective equipment and precautions for firefighters	Move containers from fire area if you can do it without risk. Evacuate area and fight fire from a safe distance.

Hazardous combustion products

Refer to section 10.

6. Accidental Release Measures

Personal precautions	Wear appropriate personal protective equipment.
Environmental precautions	Do not let product enter drains. Do not flush into surface water or sanitary sewer system.
Other information	In case of large spills, follow all facility emergency response procedures. Soak up with inert absorbent material. Slowly vacuum or sweep the material into a bag or other sealed container. Dispose of in compliance with federal, state, and local regulations. See also section 13 Disposal considerations.

7. Handling and Storage

Handling	Avoid prolonged or repeated skin contact with this material. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Do not reuse the empty container. Take precautionary measures against static discharges.
Storage	Keep away from excessive heat or cold. Store in a cool and shaded area. Do not store in direct sunlight.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components

	Type	Value
Trade Secret (Proprietary)	STEL	10.0000 mg/m ³
	TWA	0.5000 mg/m ³

Exposure guidelines Manufacturer recommended exposure limit based on petroleum hydrocarbon at > 85%. TWA = 171ppm (1200 mg/m³).

Engineering controls Use in a well ventilated area.

Personal protective equipment

General hygiene considerations Handle in accordance with good Industrial hygiene and safety practice.

General Use personal protective equipment to minimize exposure to skin and eye.

9. Physical & Chemical Properties

Appearance	clear liquid
Color	Light yellow.
Odor	mild hydrocarbon-like
Odor threshold	Not available.
Physical state	Liquid
Form	Not available.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	370.4 °F (188 °C) (based on petroleum hydrocarbon)
Flash point	147.2 °F (64 °C) Pensky-Martens Closed Cup (based on petroleum hydrocarbon)
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	0.797
Relative density	Not available.
Solubility (water)	Not available.
Auto-ignition temperature	392 °F (200 °C) (based on petroleum hydrocarbon)
Decomposition temperature	Not available.
VOC	710 g/L

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Incompatible materials	This product may react with strong oxidizing agents.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological information	Refer to Section 2 for potential health effects and Section 4 for first aid measures.
Serious eye damage/eye irritation	Not available.

Further information No data is available on the product itself.

12. Ecological Information

Aquatic toxicity This product has not been tested for ecological effects.

Persistence and degradability Not available.

13. Disposal Considerations

Disposal instructions Dispose of in compliance with federal, state, and local regulations.

14. Transport Information

Further information Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

DOT

Not regulated as dangerous goods.

IATA

Basic shipping requirements:

Proper shipping name Not applicable

Hazard class Not applicable

UN number none

Packing group none

Additional information:

Packaging exceptions none

IMDG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.

US TSCA 12(b): Does not contain listed chemicals.

CERCLA (Superfund) reportable quantity

None

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Regulatory information

All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

16. Other Information

Other information This MSDS was prepared in accordance with USA OSHA Hazard Communications regulation (29 CFR 1910.1200).

HMIS® ratings

Health: 1
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 2
Instability: 0

Disclaimer

This Safety Data Sheet document is provided without charge to customers of Hewlett-Packard Company. Data is the most current known to Hewlett-Packard Company at the time of preparation of this document and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application. This document was prepared to the requirements of the jurisdiction specified in Section 1 above and may not meet regulatory requirements in other countries.

Issue date

04-Aug-2011

This data sheet contains changes from the previous version in section(s):

1. Product and Company Identification: Product use
9. Physical & Chemical Properties: Color
11. Toxicological Information: Toxicological information
14. Transport Information: Further information

Manufacturer information

Hewlett-Packard Indigo BV
Startbaan 16
1187 XR Amstelveen
The Netherlands
(Direct) 1-503-494-7199
(Toll-free within the US) 1-800-457-4209

Explanation of abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REC	Recommended
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act of 1986
STEL	Short-Term Exposure Limit
TCLP	Toxicity Characteristics Leaching Procedure
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compounds



SAFETY DATA SHEET

1. Identification

Product identifier HP Imaging Oil
MPS-2017-43

Other means of identification Not available.

Recommended use HP product for use with HP Indigo Digital Presses 1000 series, 2000 series.

Recommended restrictions None known.

Company identification HP
1501 Page Mill Road
Palo Alto, CA 94304-1112
United States
Telephone 650-857-5020

HP health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-760-710-0048
HP Customer Care Line
(Toll-free within the US) 1-800-474-6836
(Direct) 1-208-323-2551
Email: hpcustomer.inquiries@hp.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Aspiration hazard Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be fatal if swallowed and enters airways.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear personal protective equipment/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting.
If swallowed: Immediately call a poison center/doctor.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Petroleum hydrocarbon		90622-58-5	<100
Refined Petroleum Hydrocarbon		8042-47-5	<2.5

Material name: MPS-2017-43

9317 Version #: 03 Revision date: 11-Aug-2015 Issue date: 05-Jun-2014

SDS US

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Composition comments

This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First-aid measures

Inhalation	If overcome by vapor, remove person from exposure to fresh air. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.
Skin contact	Wash affected areas thoroughly with mild soap and water. Immediately take off all contaminated clothing. Wash clothing separately before reuse. Get medical attention if irritation develops or persists.
Eye contact	Do not rub eyes. Flush eyes immediately with large amounts of water. If irritation persists get medical attention. Do not apply neutralizing agents.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. If ingestion of a large amount does occur, seek medical attention.
Most important symptoms/effects, acute and delayed	Not available.

5. Fire-fighting measures

Suitable extinguishing media	Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Refer to section 10.
Special protective equipment and precautions for firefighters	Not available.
Fire-fighting equipment/instructions	Move containers from fire area if you can do it without risk. Evacuate area and fight fire from a safe distance.
Specific methods	Move container from fire area if it can be done without risk. Evacuate area and fight fire from a safe distance.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up	In case of large spills, follow all facility emergency response procedures. Soak up with inert absorbent material. Slowly vacuum or sweep the material into a bag or other sealed container. Dispose of in compliance with federal, state, and local regulations. See also section 13 Disposal considerations.
Environmental precautions	Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

7. Handling and storage

Precautions for safe handling	Avoid prolonged or repeated skin contact with this material. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Do not reuse the empty container. Take precautionary measures against static discharges.
Conditions for safe storage, including any incompatibilities	Keep away from excessive heat or cold. Store in a cool and shaded area. Do not store in direct sunlight.

8. Exposure controls/personal protection**Occupational exposure limits**

ACGIH Components	Type	Value
Refined Petroleum Hydrocarbon (CAS 8042-47-5)	TWA	5 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Manufacturer recommended exposure limit based on petroleum hydrocarbon at > 95%. TWA = 171ppm (1200 mg/m3).
Appropriate engineering controls	Use in a well ventilated area.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Not available.
Skin protection	
Hand protection	Not available.
Other	Not available.
Respiratory protection	Not available.
Thermal hazards	Not available.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment to minimize exposure to skin and eye.

9. Physical and chemical properties

Appearance	clear liquid
Physical state	Liquid.
Color	Colorless.
Odor	mild hydrocarbon-like
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	370.4 °F (188 °C) (based on petroleum hydrocarbon)
Flash point	147.2 °F (64.0 °C) Pensky-Martens Closed Cup (based on Petroleum Hydrocarbon)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Solubility(ies)	
Solubility (water)	Not soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Specific gravity	0.77
VOC (Weight %)	760 g/L (6.34 lbs/gal.US)

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Will not occur.

Material name: MPS-2017-43

9317 Version #: 03 Revision date: 11-Aug-2015 Issue date: 05-Jun-2014

SDS US

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Conditions to avoid	Not available.
Incompatible materials	This product may react with strong oxidizing agents.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics	Not available.
Information on toxicological effects	
Acute toxicity	Harmful if swallowed.
Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified.
Respiratory or skin sensitization	
Respiratory sensitization	Not classified.
Skin sensitization	Mildly irritating to the skin with prolonged exposure.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be harmful if swallowed and enters airways.
Further information	No data is available on the product itself.

Components	Species	Test Results
Refined Petroleum Hydrocarbon (CAS 8042-47-5)		
Acute		
<i> Dermal</i>		
LD50	Rat	>= 5000 mg/kg
<i> Oral</i>		
LD50	Rat	>= 5000 mg/kg

12. Ecological information

Persistence and degradability	Not available.
Bioaccumulative potential	Not available.
Mobility in soil	Not available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Do not dispose of together with general office waste. Do not allow this material to drain into sewers/water supplies.
	Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Ensure collection and disposal with an appropriately licensed waste contractor.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

ADR

Not regulated as dangerous goods.

Further information

Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

15. Regulatory information**US federal regulations**

US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.

US TSCA 12(b): Does not contain listed chemicals.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312

No

Hazardous chemical**Other federal regulations****Safe Drinking Water Act (SDWA)**

Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

Not Listed.

Regulatory information

All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

16. Other information, including date of preparation or last revision**Issue date**

05-Jun-2014

Revision date

11-Aug-2015

Version #

03

Material name: MPS-2017-43

9317 Version #: 03 Revision date: 11-Aug-2015 Issue date: 05-Jun-2014

SDS US

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Disclaimer

This Safety Data Sheet document is provided without charge to customers of HP. Data is the most current known to HP at the time of preparation of this document and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application. This document was prepared to the requirements of the jurisdiction specified in Section 1 above and may not meet regulatory requirements in other countries.

Revision Information

Hazard(s) identification: <INDENT>Prevention
 Toxicological information: Aspiration hazard
 Toxicological information: Mutagenicity
 Toxicological information: Reproductivity
 Toxicological information: Respiratory sensitization
 Toxicological information: Inhalation
 Toxicological information: Specific target organ toxicity - repeated exposure
 Toxicological information: Specific target organ toxicity - single exposure
 Transport Information: Agency Name, Packaging Type, and Transport Mode Selection
 15. Regulatory Information: Safety Phrases
 Other information, including date of preparation or last revision: Disclaimer
 GHS: Classification

Manufacturer information

HP Indigo BV
 Startbaan 16
 1187 XR Amstelveen
 The Netherlands
 (Direct) 1-503-494-7199
 (Toll-free within the US) 1-800-457-4209

Explanation of abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REC	Recommended
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act of 1986
STEL	Short-Term Exposure Limit
TCLP	Toxicity Characteristics Leaching Procedure
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compounds



MATERIAL SAFETY DATA SHEET

Small Print

1. Product and Company Identification

Identification of the preparation HP ElectroInk 3.1 Black
MPS-2131-43

Product use HP product for use with HP Indigo Digital Presses 1000 series, 2000 series.

Version # 06

Revision date 21-Jul-2011

Company identification Hewlett-Packard Company
3000 Hanover Street
Palo Alto, CA 94304-1185
United States
Telephone 650-857-1501

Hewlett-Packard health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-503-494-7199
HP Customer Care Line
(Toll-free within the US) 1-800-474-6836
(Direct) 1-208-323-2551
Email: hpcustomer.inquiries@hp.com

2. Hazards Identification

Emergency overview Contact with skin and eyes may result in irritation.

Acute health effects

Any potential hazards are presumed to be due to exposure to the components.

Skin contact
Petroleum hydrocarbon
Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Eye contact
Petroleum hydrocarbon
Slightly irritating but does not injure eye tissue. Direct contact with the eye may cause discomfort and redness.

Inhalation
As a paste, the risk for lung damage is unlikely.
Petroleum hydrocarbon
Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion
Petroleum hydrocarbon
Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Potential health effects

Routes of exposure Potential routes of exposure to this product are skin and eye contact, ingestion and inhalation.

Chronic health effects Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

Carcinogenicity Carbon black is classified by the IARC as a Group 2B carcinogen (the substance is possibly carcinogenic to humans).
Carbon black in this preparation, due to its bound form, does not present this carcinogenic risk
None of the other ingredients in this preparation are classified as carcinogens according to ACGIH, EU, IARC, MAK, NTP or OSHA.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Petroleum hydrocarbon	90622-58-5	70 - 80
Carbon black	1333-86-4	2.5 - 5

Composition comments

Carbon black is present only in a bound form in this preparation.

This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures**First aid procedures****Eye contact**

Do not rub eyes. Immediately flush with large amounts of clean, warm water (low pressure) for at least 15 minutes or until particles are removed. If irritation persists get medical attention. Do not apply neutralizing agents.

Skin contact

Wash affected areas thoroughly with mild soap and water. Get medical attention if irritation develops or persists.

Inhalation

If overcome by vapor, remove person from exposure to fresh air. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures**Extinguishing media****Suitable extinguishing media**

Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media

None known.

Protection of firefighters**Specific hazards arising from the chemical**

None known.

Protective equipment and precautions for firefighters

Move containers from fire area if you can do it without risk. Evacuate area and fight fire from a safe distance.

Hazardous combustion products

Refer to section 10.

6. Accidental Release Measures**Personal precautions**

Wear appropriate personal protective equipment.

Environmental precautions

Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Other information

In case of large spills, follow all facility emergency response procedures.

Soak up with inert absorbent material. Slowly vacuum or sweep the material into a bag or other sealed container.

Dispose of in compliance with federal, state, and local regulations.

See also section 13 Disposal considerations.

7. Handling and Storage**Handling**

Avoid prolonged or repeated skin contact with this material. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Storage

Keep away from excessive heat or cold. Store in a cool and shaded area. Do not store in direct sunlight.

8. Exposure Controls / Personal Protection**Occupational exposure limits****ACGIH****Components****Type****Value**

Carbon black (1333-86-4)

TWA

3.5000 mg/m3

U.S. - Tennessee**Components****Type****Value**

Carbon black (1333-86-4)

TWA

3.5000 mg/m3

Exposure guidelines Manufacturer recommended exposure limit based on petroleum hydrocarbon at > 75%. TWA = 171ppm (1200 mg/m3).

Engineering controls Use in a well ventilated area.

Personal protective equipment**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

General

Use personal protective equipment to minimize exposure to skin and eye.

9. Physical & Chemical Properties

Appearance	Paste
Color	Black.
Odor	mild hydrocarbon-like
Odor threshold	Not available.
Physical state	Solid
Form	Not available.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	370.4 °F (188 °C) (based on petroleum hydrocarbon)
Flash point	147.2 °F (64 °C) Pensky-Martens Closed Cup (based on petroleum hydrocarbon)
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	0.856
Relative density	Not available.
Solubility (water)	Not soluble
Auto-ignition temperature	392 °F (200 °C) (based on petroleum hydrocarbon)
Decomposition temperature	Not available.
VOC	630 g/L

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Incompatible materials	This product may react with strong oxidizing agents.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information**Carcinogenicity**

Carbon black is classified as a carcinogen by the IARC (possibly carcinogenic to humans, Group 2B) and by the State of California under Proposition 65. In their evaluations of carbon black, both organizations indicate that exposure to carbon black, per se, does not occur when it remains bound within a product matrix, specifically, rubber, ink, or paint. Carbon black is present only in a bound form in this preparation.

ACGIH Carcinogens

Carbon black (CAS 1333-86-4)

A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon black (CAS 1333-86-4)

2B Possibly carcinogenic to humans.

IARC Monographs: Evidence of carcinogenicity in humans

Carbon black (CAS 1333-86-4)

Inadequate data.

Toxicological information Refer to Section 2 for potential health effects and Section 4 for first aid measures.**Serious eye damage/eye irritation** Not available.**Symptoms and target organs****Target Organs (NIOSH)**

Carbon black (CAS 1333-86-4)

Eyes
Respiratory system**Further information** The ink formulation has not been tested.

12. Ecological Information**Aquatic toxicity** This product has not been tested for ecological effects.**Persistence and degradability** Not available.

13. Disposal Considerations**Disposal instructions** Dispose of in compliance with federal, state, and local regulations.

14. Transport Information**Further information** Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.**DOT**

Not regulated as dangerous goods.

IATA**Basic shipping requirements:****Proper shipping name** Not applicable**Hazard class** Not applicable**UN number** none**Packing group** none**Additional information:****Packaging exceptions** none**IMDG**

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

15. Regulatory Information**US federal regulations** US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.

US TSCA 12(b): Does not contain listed chemicals.

CERCLA (Superfund) reportable quantity

None

Occupational Safety and Health Administration (OSHA)**29 CFR 1910.1200 hazardous chemical** No

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

State regulations**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

Carbon black (CAS 1333-86-4) Listed.

Regulatory information All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

16. Other Information

Other information This MSDS was prepared in accordance with USA OSHA Hazard Communications regulation (29 CFR 1910.1200).

HMIS® ratings Health: 1
Flammability: 2
Physical hazard: 0

NFPA ratings Health: 1
Flammability: 2
Instability: 0

Disclaimer This Safety Data Sheet document is provided without charge to customers of Hewlett-Packard Company. Data is the most current known to Hewlett-Packard Company at the time of preparation of this document and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application. This document was prepared to the requirements of the jurisdiction specified in Section 1 above and may not meet regulatory requirements in other countries.

Issue date 21-Jul-2011

This data sheet contains changes from the previous version in section(s): 1. Product and Company Identification: Product use
9. Physical & Chemical Properties: Color
11. Toxicological Information: Toxicological information
14. Transport Information: Further information

Manufacturer information Hewlett-Packard Indigo BV
Startbaan 16
1187 XR Amstelveen
The Netherlands
(Direct) 1-503-494-7199
(Toll-free within the US) 1-800-457-4209

Explanation of abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REC	Recommended
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act of 1986
STEL	Short-Term Exposure Limit
TCLP	Toxicity Characteristics Leaching Procedure
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compounds



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Identification of the preparation HP Imaging Agent 4.2 for series 3000-5000 **5600**
Q4309A

Product use HP product for use with HP Indigo Digital Presses 3000 series, 4000 series, 5000 series.

Version # 08

Revision date 12-Jul-2012

Company identification Hewlett-Packard Company
3000 Hanover Street
Palo Alto, CA 94304-1185
United States
Telephone 650-857-1501

Hewlett-Packard health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-503-494-7199
HP Customer Care Line
(Toll-free within the US) 1-800-474-6836
(Direct) 1-208-323-2551
Email: hpcustomer.inquiries@hp.com

2. Hazards Identification

Emergency overview Contact with skin and eyes may result in irritation.

Acute health effects

Skin contact Any potential hazards are presumed to be due to exposure to the components.
Petroleum hydrocarbon
Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Eye contact Contact with eyes may cause irritation. High concentration of product vapors can cause severe irritation of eyes. Slightly irritating but does not injure eye tissue and Direct contact with the eye may cause discomfort and redness.
Petroleum hydrocarbon
Slightly irritating but does not injure eye tissue. Direct contact with the eye may cause discomfort and redness.

Inhalation *Petroleum hydrocarbon*
Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion Ingestion of this product may cause nausea, vomiting and diarrhea.
Harmful if swallowed.
Petroleum hydrocarbon
Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Potential health effects

Routes of exposure Potential routes of exposure to this product are skin and eye contact, ingestion and inhalation.

Chronic health effects Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

Carcinogenicity None of the components present in this formulation at concentrations equal to or greater than 0.1% are listed by EU, MAK, IARC, NTP or OSHA.

Other information This product is classified for health effects according to EU Directive 1999/45/EC with R65, 66.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Petroleum hydrocarbon	90622-58-5	80 - 90

Trade Secret	Proprietary	7.5 - 10
Trade Secret	Proprietary	2.5 - 5
Composition comments	This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).	

4. First Aid Measures

First aid procedures

Eye contact

Do not rub eyes. Flush eyes immediately with large amounts of water. If irritation persists get medical attention.

Do not apply neutralizing agents.

Skin contact

Wash affected areas thoroughly with mild soap and water.

Immediately take off all contaminated clothing. Wash clothing separately before reuse.

Get medical attention if irritation develops or persists.

Inhalation

If overcome by vapor, remove person from exposure to fresh air. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media

Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media

None known.

Protection of firefighters

Specific hazards arising from the chemical

None known.

Protective equipment and precautions for firefighters

Move containers from fire area if you can do it without risk. Evacuate area and fight fire from a safe distance.

Hazardous combustion products

Refer to section 10.

6. Accidental Release Measures

Personal precautions

Wear appropriate personal protective equipment.

Environmental precautions

Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Other information

In case of large spills, follow all facility emergency response procedures.

Soak up with inert absorbent material. Slowly vacuum or sweep the material into a bag or other sealed container.

Dispose of in compliance with federal, state, and local regulations.

See also section 13 Disposal considerations.

7. Handling and Storage

Handling

Avoid prolonged or repeated skin contact with this material. Avoid contact with skin, eyes and clothing.

Keep away from open flames, hot surfaces and sources of ignition.

Do not reuse the empty container. Take precautionary measures against static discharges.

Storage

Keep away from excessive heat or cold. Store in a cool and shaded area. Do not store in direct sunlight.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components

	Type	Value
Trade Secret (Proprietary)	STEL	10.0000 mg/m ³
	TWA	0.5000 mg/m ³

Exposure guidelines Manufacturer recommended exposure limit based on petroleum hydrocarbon at > 80%. TWA = 171ppm (1200 mg/m³).

Engineering controls Use in a well ventilated area.

Personal protective equipment

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

General Use personal protective equipment to minimize exposure to skin and eye.

9. Physical & Chemical Properties

Appearance	clear liquid
Color	Light yellow.
Odor	mild hydrocarbon-like
Odor threshold	Not available.
Physical state	Liquid
Form	Not available.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	370.4 °F (188 °C) (based on petroleum hydrocarbon)
Flash point	147.2 °F (64 °C) Pensky-Martens Closed Cup (based on petroleum hydrocarbon)
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	0.819
Relative density	Not available.
Solubility (water)	Not available.
Auto-ignition temperature	392 °F (200 °C) (based on petroleum hydrocarbon)
Decomposition temperature	Not available.
VOC	655 g/L

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Incompatible materials	This product may react with strong oxidizing agents.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Inhalation toxicity	Negligible hazard at room temperature (up to 95 degrees F).
Routes of exposure	Potential routes of exposure to this product are skin and eye contact, ingestion, and inhalation.
Toxicological information	Refer to Section 2 for potential health effects and Section 4 for first aid measures.

Serious eye damage/eye irritation

Contact may cause mild, reversible eye irritation.

Sensitization

Skin sensitization, characterized by redness, inflammation, itching and/or burning may result from prolonged or repeated contact with this material.

Further information

No data is available on the product itself.

12. Ecological Information

Ecotoxicity

This product has not been tested for ecological effects. Information given is based on data on the components and the ecotoxicology of similar products. This material is not expected to be harmful to aquatic life.

Persistence and degradability

Expected to be ultimately biodegradable

13. Disposal Considerations

Disposal instructions

Do not dispose of together with general office waste. Do not allow this material to drain into sewers/water supplies.

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Ensure collection and disposal with an appropriately licensed waste contractor.

14. Transport Information

Further information

Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations

US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.

US TSCA 12(b): Does not contain listed chemicals.

CERCLA (Superfund) reportable quantity

None

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical

Yes

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance

No

Section 311 hazardous chemical

Yes

Regulatory information

All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

16. Other Information

Other information

This MSDS was prepared in accordance with USA OSHA Hazard Communications regulation (29 CFR 1910.1200).

HMIS® ratings

Health: 1
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 2
Instability: 0

Disclaimer

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Issue date

12-Jul-2012

Manufacturer information

Hewlett-Packard Indigo BV
Startbaan 16
1187 XR Amstelveen
The Netherlands
(Direct) 1-503-494-7199
(Toll-free within the US) 1-800-457-4209

Explanation of abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REC	Recommended
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act of 1986
STEL	Short-Term Exposure Limit
TCLP	Toxicity Characteristics Leaching Procedure
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compounds



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Identification of the preparation: HP Imaging Oil 4.0 for series 3000-5000
Q4302A *5000 Press # 32000225*

Product use: HP product for use with HP Indigo Digital Presses 3000 series, 4000 series, 5000 series.

Version #: 08

Revision date: 12-Jul-2012

Company identification: Hewlett-Packard Company
3000 Hanover Street
Palo Alto, CA 94304-1185
United States
Telephone 650-857-1501

Hewlett-Packard health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-503-494-7199
HP Customer Care Line
(Toll-free within the US) 1-800-474-6836
(Direct) 1-208-323-2551
Email: hpcustomer.inquiries@hp.com

2. Hazards Identification

Emergency overview Contact with skin and eyes may result in irritation.

Acute health effects

Skin contact Any potential hazards are presumed to be due to exposure to the components.
Petroleum hydrocarbon
Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Eye contact Contact with eyes may cause irritation. High concentration of product vapors can cause severe irritation of eyes. Slightly irritating but does not injure eye tissue and Direct contact with the eye may cause discomfort and redness.
Petroleum hydrocarbon
Slightly irritating but does not injure eye tissue. Direct contact with the eye may cause discomfort and redness.

Inhalation *Petroleum hydrocarbon*
Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion Ingestion of this product may cause nausea, vomiting and diarrhea.
Harmful if swallowed.
Petroleum hydrocarbon
Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Potential health effects

Routes of exposure Potential routes of exposure to this product are skin and eye contact, ingestion, and inhalation.

Chronic health effects Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

Carcinogenicity None of the components present in this formulation at concentrations equal to or greater than 0.1% are listed by EU, MAK, IARC, NTP or OSHA.

Other information This product is classified for health effects according to EU Directive 1999/45/EC with R65, 66.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Petroleum hydrocarbon	90622-58-5	90 - 100

Composition comments This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

First aid procedures

Eye contact Do not rub eyes. Flush eyes immediately with large amounts of water. If irritation persists get medical attention.
Do not apply neutralizing agents.

Skin contact Wash affected areas thoroughly with mild soap and water.
Immediately take off all contaminated clothing. Wash clothing separately before reuse.
Get medical attention if irritation develops or persists.

Inhalation If overcome by vapor, remove person from exposure to fresh air. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.

Ingestion Do not induce vomiting. Never give anything by mouth to an unconscious person.
If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media Suitable extinguishing media: Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media None known.

Protection of firefighters

Specific hazards arising from the chemical None known.

Protective equipment and precautions for firefighters Move containers from fire area if you can do it without risk.
Evacuate area and fight fire from a safe distance.

Hazardous combustion products Refer to section 10.

6. Accidental Release Measures

Personal precautions Wear appropriate personal protective equipment.

Environmental precautions Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Other information In case of large spills, follow all facility emergency response procedures.

Soak up with inert absorbent material. Slowly vacuum or sweep the material into a bag or other sealed container.

Dispose of in compliance with federal, state, and local regulations.

See also section 13 Disposal considerations.

7. Handling and Storage

Handling Avoid prolonged or repeated skin contact with this material. Avoid contact with skin, eyes and clothing.

Keep away from open flames, hot surfaces and sources of ignition.

Do not reuse the empty container. Take precautionary measures against static discharges.

Storage

Keep away from excessive heat or cold. Store in a cool and shaded area. Do not store in direct sunlight.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components

Type

Value

Components	Type	Value
Refined Petroleum Hydrocarbon (8042-47-5)	TWA	5.0000 mg/m ³

Exposure guidelines

Manufacturer recommended exposure limit based on petroleum hydrocarbon at > 95%. TWA = 171ppm (1200 mg/m³).

Engineering controls

Use in a well ventilated area.

Personal protective equipment

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

General

Use personal protective equipment to minimize exposure to skin and eye.

9. Physical & Chemical Properties

Appearance

clear liquid

Color

Colorless.

Odor

mild hydrocarbon-like

Odor threshold

Not available.

Physical state

Liquid

Form

Not available.

pH

Not available.

Melting point

Not available.

Freezing point

Not available.

Boiling point

370.4 °F (188 °C) (based on petroleum hydrocarbon)

Flash point

147.2 °F (64 °C) Pensky-Martens Closed Cup (based on petroleum hydrocarbon)

Evaporation rate

Not available.

Flammability limits in air, upper, % by volume

Not available.

Flammability limits in air, lower, % by volume

Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Specific gravity

0.77

Relative density

Not available.

Solubility (water)

Not available.

Auto-ignition temperature

392 °F (200 °C) (based on petroleum hydrocarbon)

Decomposition temperature

Not available.

VOC

770 g/L (6.38 lbs/gal. US)

10. Chemical Stability & Reactivity Information

Chemical stability

Stable under recommended storage conditions.

Incompatible materials

This product may react with strong oxidizing agents.

Hazardous decomposition products

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Possibility of hazardous reactions

Will not occur.

11. Toxicological Information

Inhalation toxicity

Negligible hazard at room temperature (up to 95 degrees F).

Routes of exposure

Potential routes of exposure to this product are skin and eye contact, ingestion, and inhalation.

Toxicological information

Refer to Section 2 for potential health effects and Section 4 for first aid measures.

Serious eye damage/eye irritation

Contact may cause mild, reversible eye irritation.

Sensitization

Skin sensitization, characterized by redness, inflammation, itching and/or burning may result from prolonged or repeated contact with this material.

Further information

No data is available on the product itself.

12. Ecological Information

Ecotoxicity

This product has not been tested for ecological effects. Information given is based on data on the components and the ecotoxicology of similar products. This material is not expected to be harmful to aquatic life.

Persistence and degradability

Expected to be ultimately biodegradable

13. Disposal Considerations

Disposal instructions

Do not dispose of together with general office waste. Do not allow this material to drain into sewers/water supplies.

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Ensure collection and disposal with an appropriately licensed waste contractor.

14. Transport Information

Further information

Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations

US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.

US TSCA 12(b): Does not contain listed chemicals.

CERCLA (Superfund) reportable quantity

None

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Regulatory information

All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

16. Other Information

Other information

This MSDS was prepared in accordance with USA OSHA Hazard Communications regulation (29 CFR 1910.1200).

HMIS® ratings

Health: 1
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 2
Instability: 0

Disclaimer

This Safety Data Sheet document is provided without charge to customers of Hewlett-Packard Company. Data is the most current known to Hewlett-Packard Company at the time of preparation of this document and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application. This document was prepared to the requirements of the jurisdiction specified in Section 1 above and may not meet regulatory requirements in other countries.

Issue date

12-Jul-2012

Manufacturer information

Hewlett-Packard Indigo BV
Startbaan 16
1187 XR Amstelveen
The Netherlands
(Direct) 1-503-494-7199
(Toll-free within the US) 1-800-457-4209

Explanation of abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REC	Recommended
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act of 1986
STEL	Short-Term Exposure Limit
TCLP	Toxicity Characteristics Leaching Procedure
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compounds



MATERIAL SAFETY DATA SHEET

Small Print

1. Product and Company Identification

Identification of the preparation HP ElectroInk 4.0 Magenta Q4014B **5600**

Product use HP product for use with HP Indigo Digital Presses 3000 series, 4000 series, 5000 series.

Version # 06

Revision date 06-Aug-2011

Company Identification Hewlett-Packard Company
3000 Hanover Street
Palo Alto, CA 94304-1185
United States
Telephone 650-857-1501

Hewlett-Packard health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-503-494-7199
HP Customer Care Line
(Toll-free within the US) 1-800-474-6836
(Direct) 1-208-323-2551
Email: hpcustomer.inquiries@hp.com

* INDICATIVE OF MOST
4.0 SERIES INK

2. Hazards Identification

Emergency overview Contact with skin and eyes may result in irritation.

Acute health effects

Any potential hazards are presumed to be due to exposure to the components.

Skin contact

Petroleum hydrocarbon

Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Eye contact

Petroleum hydrocarbon

Slightly irritating but does not injure eye tissue. Direct contact with the eye may cause discomfort and redness.

Inhalation

As a paste, the risk for lung damage is unlikely.

Petroleum hydrocarbon

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion

Petroleum hydrocarbon

Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Potential health effects

Routes of exposure

Potential routes of exposure to this product are skin and eye contact, ingestion and inhalation.

Chronic health effects

Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

Carcinogenicity

None of the components present in this formulation at concentrations equal to or greater than 0.1% are listed by EU, MAK, IARC, NTP or OSHA.

Other information

All pigments are resin coated and therefore, there is no azodye exposure in normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Petroleum hydrocarbon	90622-58-5	70 - 80
C.I.P.R. 146 No.12485	5280-68-2	2.5 - 5
Trade Secret	Proprietary	1 - 2.5

Material name: Q4014B

9573 Version #: 06 Revision date: 06-Aug-2011 Print date: 06-Aug-2011

MSDS US

1 / 5

Composition comments This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

First aid procedures

- Eye contact** Do not rub eyes. Immediately flush with large amounts of clean, warm water (low pressure) for at least 15 minutes or until particles are removed. If irritation persists get medical attention. Do not apply neutralizing agents.
- Skin contact** Wash affected areas thoroughly with mild soap and water. Get medical attention if irritation develops or persists.
- Inhalation** If overcome by vapor, remove person from exposure to fresh air. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.
- Ingestion** Do not induce vomiting. Never give anything by mouth to an unconscious person. If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures

Extinguishing media

- Suitable extinguishing media** Suitable extinguishing media: Dry chemical, CO₂, water spray or regular foam.
- Unsuitable extinguishing media** None known.

Protection of firefighters

- Specific hazards arising from the chemical** None known.
- Protective equipment and precautions for firefighters** Move containers from fire area if you can do it without risk. Evacuate area and fight fire from a safe distance.

Hazardous combustion products Refer to section 10.

6. Accidental Release Measures

- Personal precautions** Wear appropriate personal protective equipment.
- Environmental precautions** Do not let product enter drains. Do not flush into surface water or sanitary sewer system.
- Other information** In case of large spills, follow all facility emergency response procedures.
- Soak up with inert absorbent material. Slowly vacuum or sweep the material into a bag or other sealed container.
Dispose of in compliance with federal, state, and local regulations.
See also section 13 Disposal considerations.

7. Handling and Storage

- Handling** Avoid prolonged or repeated skin contact with this material. Avoid contact with skin, eyes and clothing.
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.
- Storage** Keep away from excessive heat or cold. Store in a cool and shaded area. Do not store in direct sunlight.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components

Trade Secret (Proprietary)

Type

TWA

Value

3.0000 mg/m³

Exposure guidelines

Manufacturer recommended exposure limit based on petroleum hydrocarbon at > 75%. TWA = 171ppm (1200 mg/m³).

Engineering controls

Use in a well ventilated area.

Personal protective equipment

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

General

Use personal protective equipment to minimize exposure to skin and eye.

9. Physical & Chemical Properties

Appearance

Paste

Color

Magenta

Odor

mild hydrocarbon-like

Odor threshold

Not available.

Physical state

Solid

Form

Not available.

pH

Not available.

Melting point

Not available.

Freezing point

Not available.

Boiling point

370.4 °F (188 °C) (based on petroleum hydrocarbon)

Flash point

147.2 °F (64 °C) Pensky-Martens Closed Cup (based on petroleum hydrocarbon)

Evaporation rate

Not available.

Flammability limits in air, upper, % by volume

Not available.

Flammability limits in air, lower, % by volume

Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Specific gravity

0.818

Relative density

Not available.

Solubility (water)

Not soluble

Auto-ignition temperature

392 °F (200 °C) (based on petroleum hydrocarbon)

Decomposition temperature

Not available.

VOC

650 g/L (5.39 lbs/gal. US)

10. Chemical Stability & Reactivity Information

Chemical stability

Stable under recommended storage conditions.

Incompatible materials

This product may react with strong oxidizing agents.

Hazardous decomposition products

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Possibility of hazardous reactions

Will not occur.

11. Toxicological Information

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Trade Secret (CAS Proprietary)

3 Not classifiable as to carcinogenicity to humans.

IARC Monographs: Evidence of carcinogenicity in humans

Trade Secret (CAS Proprietary)

No data.

Toxicological information Refer to Section 2 for potential health effects and Section 4 for first aid measures.
Serious eye damage/eye irritation Not available.
Further information The ink formulation has not been tested.

12. Ecological Information

Aquatic toxicity This product has not been tested for ecological effects.
Persistence and degradability Not available.

13. Disposal Considerations

Disposal instructions Dispose of in compliance with federal, state, and local regulations.

14. Transport Information

Further information Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

DOT

Not regulated as dangerous goods.

IATA

Basic shipping requirements:

Proper shipping name Not applicable

Hazard class Not applicable

UN number none

Packing group none

Additional information:

Packaging exceptions none

IMDG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.

US TSCA 12(b): Does not contain listed chemicals.

CERCLA (Superfund) reportable quantity

None

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical No

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Regulatory information

All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

16. Other Information

Other information

This MSDS was prepared in accordance with USA OSHA Hazard Communications regulation (29 CFR 1910.1200).

HMIS® ratings

Health: 1
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 2
Instability: 0

Disclaimer

This Safety Data Sheet document is provided without charge to customers of Hewlett-Packard Company. Data is the most current known to Hewlett-Packard Company at the time of preparation of this document and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application. This document was prepared to the requirements of the jurisdiction specified in Section 1 above and may not meet regulatory requirements in other countries.

Issue date

06-Aug-2011

This data sheet contains changes from the previous version in section(s):

Product and Company Identification: Physical States
1. Product and Company Identification: Product use
9. Physical & Chemical Properties: Color
11. Toxicological Information: Toxicological Information
14. Transport Information: Further information

Manufacturer information

Hewlett-Packard Indigo BV
Startbaan 16
1187 XR Amstelveen
The Netherlands
(Direct) 1-503-494-7199
(Toll-free within the US) 1-800-457-4209

Explanation of abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REC	Recommended
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act of 1986
STEL	Short-Term Exposure Limit
TCLP	Toxicity Characteristics Leaching Procedure
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compounds



Material Safety Data Sheet
Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

2.

Print Date Oct-17-2012

Revision Date Oct-17-2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product code: 60028327CV
Product name: Special UV White FL Cards
Product category: Ink Product

Manufacturer or supplier's details

UNITED STATES
Nazdar Company
8501 Hedge Lane Terrace
Shawnee, KS 66227
Tel: 1-913-422-1888
Tel: 1-800-677-4657
Fax: 1-913-422-2294

UNITED KINGDOM
Nazdar Limited
Barton Road
Heaton Mersey
Stockport, England SK4 3EG
Tel: +44 161 442 2111

Emergency Telephone Number

USA: Chemtec: 1-800-424-9300
Outside USA: Chemtec: 1-703-527-3887

Website: www.nazdar.com
MSDS Information: 1-913-422-1888 ext 2305
MSDS Contact: Regulatory Compliance
email: regcomp@nazdar.com

2. HAZARDS IDENTIFICATION

This product is a preparation. Health hazard information is based on its components.

Appearance
Emergency Overview

Colored liquid
Irritant. Sensitizer.

Eyes

Moderately irritating to the eyes. The liquid splashed in the eyes may cause irritation and reversible damage.

Skin

Moderate skin irritation. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful if absorbed through skin.

Inhalation

May cause irritation of respiratory tract. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion

Ingestion may cause irritation to mucous membranes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Table with 3 columns: Component, CAS-No, Weight %. Rows include Titanium dioxide, Vinyl Functional Monomer, Acrylated Monomer, Glycol ether acrylate, Photoinitiator.

4. FIRST AID MEASURES

Eye Contact

May produce an allergic reaction. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

Skin Contact

May cause allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes.

Inhalation	If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
Ingestion	May produce an allergic reaction. If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Flammable Properties	No information available
Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Cool containers / tanks with water spray. Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers. To avoid thermal decomposition, do not overheat. Fire or intense heat may cause violent rupture of packages.
Specific Hazards Arising from the Chemical	May cause sensitization by skin contact. Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Remove all sources of ignition. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Methods for Cleaning Up	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
Environmental Precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of the directions of use on the label. Do not take internally. Harmful or fatal if swallowed.
Storage	Keep at temperatures between 9.9°C and 31.9°C. Keep container closed when not in use. Keep out of the reach of children. Keep away from direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Ontario TWAEV	Mexico OEL (TWA)
Titanium dioxide	TWA: 10 mg/m ³	TWA: 10 mg/m ³ (total dust) TWA: 15 mg/m ³ (total dust)	5000 mg/m ³	TWA: 10 mg/m ³ (total dust)	TWA/LMPE-PPT: 10 mg/m ³ (as Ti) STEL/LMPE-CT: 20 mg/m ³ (as Ti)

Engineering Measures	Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
Personal Protective Equipment	
Respiratory Protection	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
Eye Protection	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
Skin Protection	Wear protective gloves/clothing. Solvent-resistant apron and boots.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colored liquid	Physical State	Liquid
Odor	Mild Sweet Acrylic	Odor Threshold	No information available
pH	No information available	Autoignition Temperature	No information available
Boiling point/Boiling Range	>149 °C / >300 °F	Melting Point/Range	No information available
Freezing Point/Range	No information available	Solubility	No information available
Evaporation Rate	No information available	Partition Coefficient (n-octanol/water)	No information available
Vapour Pressure	No information available	Vapour Density	Heavier than air
Flammability (solid, gas)	No information available	Flammability Limits in Air	
		Upper	No information available
		Lower	No information available
Flash Point	> 93 °C / > 200 °F	Photochemically Reactive	No
Method	Pensky Martens Closed Cup (PMCC)		
Weight Per Gallon (lbs/gal)	11	Specific Gravity	1.32
VOC by weight % (less water)	0.02	VOC by volume % (less water)	0.02
VOC lbs/gal (less water)	0-1	VOC grams/liter (less water)	0.2

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Temperatures above 93°C. Keep away from direct sunlight.
Incompatible Products	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO ₂). Carbon monoxide.
Possibility of Hazardous Reactions	None under normal processing. Do not store for longer periods at temperatures above 93°C.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Titanium dioxide	>10000 mg/kg (Rat)		
Acrylated Monomer	5 g/kg (Rat)	3600 µL/kg (Rabbit)	

Acrylated Monomer	4600 mg/kg (Rat)	>2 g/kg (Rabbit)	
Glycol ether acrylate	4660 µL/kg (Rat)	2540 µL/kg (Rabbit)	

Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Titanium dioxide		Group 2B		X

IARC: (International Agency for Research on Cancer)
OSHA: (Occupational Safety & Health Administration)

Group 2B - Possibly Carcinogenic to Humans
 X - Present

Sensitisation	May cause sensitization of susceptible persons.
Mutagenic Effects	No information available
Reproductive Effects	No information available
Developmental hazard	No information available
Teratogenicity	No information available
Chronic Effects	Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
Target Organ Effects	Respiratory system

12. ECOLOGICAL INFORMATION

Ecotoxicity
 We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Persistence and Degradability	No information available
Bioaccumulation	No information available
Mobility in Environmental Media	No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of contents/container in accordance with local regulation.
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT	Printing Ink, Not Regulated
ICAO/IATA	Not classified as dangerous in the meaning of transport regulations
IMDG/IMO	Not classified as dangerous in the meaning of transport regulations

15. REGULATORY INFORMATION

International Inventories
 Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

U.S. Federal Regulations
SARA 313
 The following components are subject to reporting levels established by SARA Title III, Section 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Glycol ether acrylate	Trade Secret	1 - 5	1.0

The above glycol ether acrylate is considered a reactive chemical in ultraviolet curable inks. Once initiated by a high dose of ultraviolet light, this glycol ether acrylate rapidly polymerizes (i.e. hardens) and becomes part of the ink film. The polymerization process of UV curable inks is measured in milliseconds.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

Component	CAS-No	Weight %
Glycol ether acrylate	Trade Secret	1 - 5

U.S. State Regulations

Component	Massachusetts Right To Know	Minnesota Right To Know	New Jersey Right To Know	Pennsylvania Right To Know
Titanium dioxide	X	X	X	X
Acrylated Monomer	Not Listed	X	Not Listed	Not Listed
Glycol ether acrylate	Not Listed	Not Listed	X	X

California Prop. 65

WARNING! This product contains a chemical known in the State of California to cause cancer and / or WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm

Component	CAS-No	Weight %
Titanium dioxide	13463-67-7	10 - 30

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Titanium dioxide	D2A
Acrylated Monomer	D2B

Regulation (EC) No. 1907/2006 (REACH), Article 57

This product does not contain substances of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 57)

HMIS:	Health 2	Flammability 1	Reactivity 1	PPE X
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16. OTHER INFORMATION

Revision Date Oct-17-2012

Revision Note New MSDS format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of MSDS



Material Safety Data Sheet
Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Apr-01-2013

Revision Date Apr-01-2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product code 60010769CV
Product name Special UV Low Viscosity NSC Clear
Product category Ink Product

Manufacturer or supplier's details

UNITED STATES
Nazdar Company
8501 Hedge Lane Terrace
Shawnee, KS 66227
Tel: 1-913-422-1888
Tel: 1-800-677-4657
Fax: 1-913-422-2294

UNITED KINGDOM
Nazdar Limited
Barton Road
Heaton Mersey
Stockport, England SK4 3EG
Tel: +44 161 442 2111

Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300
Outside USA: Chemtrec: 1-703-527-3887

Website: www.nazdar.com
MSDS Information: 1-913-422-1888 ext 2305
MSDS Contact: Regulatory Compliance
email: regcomp@nazdar.com

2. HAZARDS IDENTIFICATION

This product is a preparation. Health hazard information is based on its components.

Appearance Colored liquid
Emergency Overview Irritant. Sensitizer.

Eyes Moderately irritating to the eyes. The liquid splashed in the eyes may cause irritation and reversible damage.

Skin Moderate skin irritation. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful if absorbed through skin.

Inhalation May cause irritation of respiratory tract. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion Ingestion may cause irritation to mucous membranes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Acrylated Monomer	Trade Secret	30 - 60
Glycol ether acrylate	Trade Secret	5 - 10
Benzophenone	119-61-9	5 - 10
Acrylated Monomer	Trade Secret	1 - 5
Photoinitiator	Trade Secret	1 - 5
Ethyl benzene (contaminant)	100-41-4	< 0.5

• Component names which have the word (contaminant) are constituents contained in Aromatic Hydrocarbon ingredients and are an integral part of the ingredient and cannot be separated. The percentage listed for the contaminant is as contained in the Hydrocarbon ingredient. (Example: 100% Hydrocarbon, 10% Contaminant A, 3% Contaminant B)

4. FIRST AID MEASURES

Eye Contact May produce an allergic reaction. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

Skin Contact	May cause allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes.
Inhalation	If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
Ingestion	May produce an allergic reaction. If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Flammable Properties	No information available
Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Cool containers / tanks with water spray. Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers. To avoid thermal decomposition, do not overheat. Fire or intense heat may cause violent rupture of packages.
Specific Hazards Arising from the Chemical	May cause sensitization by skin contact. Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Remove all sources of ignition. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Methods for Cleaning Up	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
Environmental Precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Do not take internally. Harmful or fatal if swallowed. Take notice of the directions of use on the label.
Storage	Keep at temperatures between 18°-32°C (65°-90°F). Keep container closed when not in use. Keep out of the reach of children. Keep away from direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Ontario TWA EV	Mexico OEL (TWA)
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Ethyl benzene (contaminant)	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm STEL: 545 mg/m ³	800 ppm (10% LEL)	TWA: 100 ppm STEL: 125 ppm	TWA/LMPE-PPT: 100 ppm TWA/LMPE-PPT: 435 mg/m ³ STEL/LMPE-CT: 125 ppm STEL/LMPE-CT: 545 mg/m ³
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Engineering Measures

Use ventilation adequate to keep exposures below recommended exposure limits. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal Protective Equipment**Respiratory Protection**

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.

Eye Protection

Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.

Skin Protection

Wear protective gloves/clothing. Solvent-resistant apron and boots.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colored liquid	Physical State	Liquid
Odor	Mild Sweet Acrylic	Odor Threshold	No information available
pH	No information available	Autoignition Temperature	No information available
Boiling point/Boiling Range	>149 °C / >300 °F	Melting Point/Range	No information available
Freezing Point/Range	No information available	Solubility	No information available
Evaporation Rate	No information available	Partition Coefficient (n-octanol/water)	No information available
Vapour Pressure	No information available	Vapour Density	Heavier than air
Flammability (solid, gas)	No information available	Flammability Limits in Air	
		Upper	No information available
		Lower	No information available
Flash Point	> 93 °C / > 200 °F	Photochemically Reactive	No
Method	Pensky Martens Closed Cup (PMCC)		
Weight Per Gallon (lbs/gal)	9.07	Specific Gravity	1.09
VOC by weight % (less water)	1.1	VOC by volume % (less water)	1.29
VOC lbs/gal (less water)	0.1	VOC grams/liter (less water)	11.97

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Temperatures above 93°C (200°F). Keep away from direct sunlight.
Incompatible Products	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO ₂); Carbon monoxide.
Possibility of Hazardous Reactions	None under normal processing. Do not store for longer periods at temperatures above 93°C (200°F).

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acrylated Monomer	5 g/kg (Rat)	3600 µL/kg (Rabbit)	
Glycol ether acrylate	4660 µL/kg (Rat)	2540 µL/kg (Rabbit)	
Benzophenone	>10 g/kg (Rat)	3535 mg/kg (Rabbit)	
Acrylated Monomer	5190 µL/kg (Rat)	5000 mg/kg (Rabbit)	
Ethyl benzene (contaminant)	3500 mg/kg (Rat)	15354 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 h

Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Benzophenone		Group 2B		X
Ethyl benzene (contaminant)	A3	Group 2B		X

Legend:

ACGIH: (American Conference of Governmental Industrial Hygienists)

IARC: (International Agency for Research on Cancer)

OSHA: (Occupational Safety & Health Administration)

A3 - Animal Carcinogen

Group 2B - Possibly Carcinogenic to Humans

X - Present

Sensitisation

May cause sensitization of susceptible persons.

Mutagenic Effects

No information available

Reproductive Effects

No information available

Developmental hazard

No information available

Teratogenicity

No information available

Chronic Effects

Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

Target Organ Effects

No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Algae	Fish	Water Flea
Benzophenone		96h LC50 Pimephales promelas: 13.2 - 15.3 mg/L [flow-through]	
Ethyl benzene (contaminant)	96h EC50 Pseudokirchneriella subcapitata: 1.7 - 7.6 mg/L [static] 72h EC50 Pseudokirchneriella subcapitata: 2.6 - 11.3 mg/L [static] 72h EC50 Pseudokirchneriella subcapitata: 4.6 mg/L 96h EC50 Pseudokirchneriella subcapitata: >438 mg/L	96h LC50 Oncorhynchus mykiss: 11.0 - 18.0 mg/L [static] 96h LC50 Pimephales promelas: 7.55 - 11 mg/L [flow-through] 96h LC50 Pimephales promelas: 9.1 - 15.6 mg/L [static] 96h LC50 Lepomis macrochirus: 32 mg/L [static] 96h LC50 Oncorhynchus mykiss: 4.2 mg/L [semi-static] 96h LC50 Poecilia reticulata: 9.6 mg/L [static]	48h EC50 Daphnia magna: 1.8 - 2.4 mg/L

Persistence and Degradability

No information available

Bioaccumulation

No information available

Mobility in Environmental Media

No information available

Component	log Pow
Benzophenone	3.58
Ethyl benzene (contaminant)	3.118

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of contents/container in accordance with local regulation.
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION**DOT**

Printing Ink, Not Regulated

ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

15. REGULATORY INFORMATION**International Inventories**

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

U.S. Federal Regulations**SARA 313**

The following components are subject to reporting levels established by SARA Title III, Section 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Ethyl benzene (contaminant)	100-41-4	< 0.5	0.1
Glycol ether acrylate	Trade Secret	5 - 10	1.0

The above glycol ether acrylate is considered a reactive chemical in ultraviolet curable inks. Once initiated by a high dose of ultraviolet light, this glycol ether acrylate rapidly polymerizes (i.e. hardens) and becomes part of the ink film. The polymerization process of UV curable inks is measured in milliseconds.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

Component	CAS-No	Weight %
Glycol ether acrylate	Trade Secret	5 - 10

U.S. State Regulations

Component	Massachusetts Right To Know	Minnesota Right To Know	New Jersey Right To Know	Pennsylvania Right To Know
Acrylated Monomer	Not Listed	X	Not Listed	Not Listed
Glycol ether acrylate	Not Listed	Not Listed	X	X
Benzophenone	Not Listed	X	Not Listed	Not Listed
Acrylated Monomer	Not Listed	X	Not Listed	Not Listed
Ethyl benzene (contaminant)	X	X	X	X

California Prop. 65

WARNING! This product contains a chemical known in the State of California to cause cancer and / or WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm

Component	CAS-No	Weight %
Ethyl benzene (contaminant)	100-41-4	< 0.5
Benzophenone	119-61-9	5 - 10

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Acrylated Monomer	D2B
Acrylated Monomer	D2B
Ethyl benzene (contaminant)	B2,D2A,D2B

Component	NPRI - National Pollutant Release Inventory
Benzophenone	Part 4 Substance
Ethyl benzene (contaminant)	Part 4 Substance Part 1, Group 1 Substance

Regulation (EC) No. 1907/2006 (REACH), Article 57

This product does not contain substances of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 57)

HMIS:	Health	Flammability	Reactivity	PPE
	2	1	1	X

16. OTHER INFORMATION

Revision Date Apr-01-2013

Revision Note New MSDS format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of MSDS

PRODUCT NAME: UV 171 RANGE OF INKS

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: UV 171 RANGE OF INKS
 General Use: Printing ink
 Product description: A mixture of pigments in multifunctional acrylate vehicle.

Horizon Inks Small Print

MANUFACTURER:
 T&K TOKA Co., Ltd.
 No.20-4, Izumi-chou, Itabashi-ku, Tokyo
 174-0055, Japan

EMERGENCY TELEPHONE NUMBERS:
 Telephone: 81-3-3963-0512
 8:30-17:30 Jpn M-F
 Facsimile: 81-3-3963-5249
 24Hrs every day

2. COMPOSITION/INFORMATON ON INGREDIENTS

	Wt %	CAS #
Diallylphthalate prepolymer	10-20	25053-15-0
Acrylic ester monomer A	10-30	53192-18-0
Acrylic ester monomer B	10-30	15625-89-5
Photo initiator	5-10	71868-10-5
Pigments	10-50	various
Additives	-5	various

OSHA HAZARDS Exposure Limits 8 hrs. TWA (ppm) (29 CFR 1910.1200)

	OSHA PEL	ACGIH PEL	Supplier
Diallylphthalate prepolymer	Not-established	Not-established	----
Acrylic ester monomer A	Not-established	Not-established	----
Acrylic ester monomer B	Not-established	Not-established	----
Photo initiator	Not-established	Not-established	----
Pigments	Not-established	Not-established	----
Additives	Not-established	Not-established	----

SARA 313 INFORMATION: This product contains none of the substances subject to the reporting requirements of Section 313 of the Title III of the SARA of 1986 and 40 CFR Part 372.

TSCA: All the ingredients of this product are on the 8(b) Inventory list.

3. HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW

Colored paste with slightly acrylic odor.

POTENTIAL HEALTH EFFECTS

INHALATION: No Information available.

SKIN CONTACT: May cause skin irritation. Symptoms of irritation may include localized rash and swelling. Prolonged skin contact may cause skin sensitization.

EYE CONTACT: May cause minor eye irritation. Symptoms of irritation may include excessive tearing, redness and blinking.

INGESTION: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

CARCINOGENICITY: Not known to be carcinogenic.

NTP? No IARC MONOGRPHS? No OSHA REGULATED? No

Black ink contains carbon black. Carbon black evaluated as Group 2B (possibly carcinogenic to humans).

Printing inks are not classifiable as to their carcinogenicity to humans (Group 3).

PRODUCT NAME: UV 171 RANGE OF INKS

Page 2 of 3

4. FIRST AID MEASURES

INHALATION: Remove exposed person to fresh air, perform artificial respiration if necessary. Call a physician.

EYE CONTACT: Immediately flush eyes with plenty of water at least 15 min. Call a physician.

SKIN CONTACT: Immediately wash skin with soap and plenty of water.

INGESTION: Give milk, egg white, gelatin solution, or if these are not available, large quantity of water. Avoid alcohol. Contact a poison center and have MSDS information available.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam, asphyxiator, dry chemical.

SPECIAL FIRE-FIGHTING PROCEDURES:

Keep out of smoke. Cool exposed containers with water spray. Fight fire from upwind position. Use self-contained breathing equipment.

UNUSUAL FIRE AND EXPLOSION HAZARDOUS: None.

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition products may include nitrogen, sulfur, and toxic oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

GENERAL: Avoid skin contact and breathing vapor.

LAND SPILL: Enclose spilled material with the use of dicing. And then absorb spilled material with absorbent and place in covered container. Scrub contaminated area with detergent and bleach or caustic soda solution. Rinse with water.

WATER SPILLED: Prevent spilled from entering sewers and waterway.

7. HANDLING AND STORAGE

WARNING: Avoid heat and direct sunlight.

PRECAUTION: Store in dry cool area.

STORAGE TEMPERATURE: 5°C to not exceed 40°C.

STORAGE PRESSURE: Atmospheric

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Maintain exposure levels as low as possible through use of general and local exhaust ventilation.

PERSONAL PROTECTION: Chemical splash proof goggles for eye protection. Impervious gloves for skin protection. Use NIOSH approved respirators when necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor pressure: Not available

Specific gravity: 1.10-1.40(23°C)

Solubility in water: Not available

Boiling point: Not available

Flash point and method: >170°C(closed cup)

Auto ignition temperature: Not available

Vapor density: Not available

Evaporation rate: Not available

pH: Not available

Freezing point: Not available

Flammable limits LFL&UFL: Not available

PRODUCT NAME: UV 171 RANGE OF INKS

10. STABILITY AND REACTIVITY

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Radical Initiator media.

HAZARDOUS DECOMPOSITION:

This material is stable under recommended storage and handling conditions.

HAZARDOUS POLYMERIZATION:

High temperature may cause rapid polymerization. Also exposure to UV light.

11. TOXICOLOGICAL INFORMATION

Not available

12. ECOLOGICAL INFORMATION

Not available

13. DISPORSAL CONDITION

Dispose in accordance with local, state, and federal regulation.

14. TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not regulated

15. REGULATORY INFORMATION

TSCA (Toxic Substance Control Act)

All the components are listed on the TSCA Inventory or are subject to a Low Volume Exemption.

16. OTHER INFORMATION

REVISION SUMMARY June 14, 2007 Original MSDS established

To the best of our knowledge, the information contained herein is accurate. However, neither T&K TOKA Co., Ltd. nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are not the only hazards. Which exist.

2.



Vutek

Material Safety Data Sheet

Material Name: GS3200 LED REV 4 INK

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: UV Curable Printing Ink
Product Use: Printing Ink for GS Printers
Manufacturer Information:
EFI / VUTEK, Inc.
One VUTEK Place
Meredith, NH 03253

Phone: 603-279-4635
EHS@efi.com
Emergency # 1-800-424-9300 (CHEMTREC)

General Comments

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. For non-emergency inquiries call VUTEK, Inc. at 603-279-4635. Ask for Ink Support Group.

*** Section 2 - Hazards Identification ***

Physical State: Liquid
Colors: Cyan, Magenta, Yellow, Black, White, Lt-Cyan, Lt-Magenta, Lt-Yellow, Lt-Black
Odor: Mild Acrylate Odor

Emergency Overview

Avoid inhalation of mists/vapors and contact with skin and eyes. This product may cause sensitization by inhalation and skin contact. Toxic fumes may be released in case of fire.

Potential Health Effects: Eyes

Avoid contact with eyes. This product may cause irritation to the eyes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Potential Health Effects: Skin

Avoid contact with skin. Product contains an ingredient known to be a sensitizer in animals. Therefore, prolonged or repeated contact with the product may result in allergic skin sensitization reactions.

Potential Health Effects: Ingestion

Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances. This product may be harmful if it is swallowed.

Potential Health Effects: Inhalation

This product may cause sensitization by inhalation. Low vapor pressure makes inhalation unlikely at standard temperatures and pressures.

HMIS Ratings: Health: 2 Fire: 1 Physical Hazard: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

Table with 2 columns: Component and Percent. Rows include Vinyl Caprolactam (35-45), Tetrahydrofurfuryl acrylate (10-20), Isobornyl Acrylate (5-15), and Mono Acyl Phosphine Oxide (1-5).

Material Safety Data Sheet

Material Name: GS3200 LED REV 4 INK

Component Information/Information on Non-Hazardous Components

Information concerning non-hazardous ingredients, as defined by 29CFR1910.1200, is considered a Trade Secret.

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once. Get medical attention or advice.

First Aid: Skin

Remove all contaminated clothing. Wash affected area(s) thoroughly with mild soap and water. Do not use solvent. If irritation develops, get medical attention. Wash contaminated clothing before reuse.

First Aid: Ingestion

If the material is swallowed, get immediate medical attention or advice -- DO NOT induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

First Aid: Inhalation

Remove affected person to fresh air. Call a physician if symptoms develop or persist. If the affected person is not breathing, apply artificial respiration. Call 911 for emergency medical service.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 - PHYSICAL & CHEMICAL PROPERTIES for Flammability Properties. Acrylate monomers may be released upon combustion. Closed containers exposed to heat and fire may build pressure and explode.

Hazardous Combustion Products

See Section 10 - STABILITY and REACTIVITY for hazardous combustion and thermal decomposition information.

Extinguishing Media

Dry chemical. Water may be an ineffective extinguishing medium. Carbon dioxide.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus and face mask. Avoid inhalation of vapor, fumes, dust and/or mists from the spilled material.

NFPA Ratings: Health: 2 Flammability: 1 Reactivity: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Evacuation Procedures

Evacuate spill area of unprotected and untrained personnel. Ventilate the contaminated area. Remove or disable all sources of ignition.

Containment Procedures

Contain the discharged material. Do not allow the spilled product to enter public drainage system or open water courses. Cover with inert absorbent such as dry clay, sand, diatomaceous earth or commercial sorbents. For a large spill or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors.

Material Safety Data Sheet

Material Name: GS3200 LED REV 4 INK

Personal Precautions

Wear appropriate protective equipment and clothing during clean-up. Avoid skin contact and inhalation of vapors during disposal of spills.

Clean-Up Procedures

The spill should be cleaned up by qualified personnel only. Sweep, gather or collect up spilled material and place in covered container appropriate for disposal. Avoid the generation of dusts during clean-up. Thoroughly wash the area with water after a spill or leak clean-up.

Special Procedures

Regulations vary. Consult local authorities before disposal. Follow all Local, State, Federal and Provincial regulations for disposal. Determine if release qualifies as a reportable incident according to local, state and federal regulations.

*** Section 7 - Handling and Storage ***

Handling Procedures

Use good industrial hygiene practices when handling this material. Avoid getting this material into contact with your skin and eyes. Use this product with adequate ventilation. When using this material, do not eat, drink or smoke. Wash thoroughly after handling this product.

Storage Procedures

Store this product in air-tight containers away from sources of heat and light. Store in a cool, dry, well-ventilated area.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits

ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

Isobornyl Acrylate

OSHA: 5 ppm (Interez)

Engineering Controls

Use general dilution and local exhaust ventilation to effectively remove and prevent buildup of any vapors, mists or spray generated from the handling/processing of this product. If ventilation is not adequate, use respiratory protection equipment.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Avoid contact with eyes. Wear safety glasses with side shields. Chemical goggles are recommended when splash potential exists. Use of full face shield is also recommended.

Personal Protective Equipment: Skin

Avoid contact with skin. Select and use gloves and/or protective clothing to prevent skin contact.

Personal Protective Equipment: Respiratory

Avoid breathing of vapors, mist or spray. If ventilation is not sufficient to effectively prevent buildup of vapor, mist, fume or dust, appropriate NIOSH/MSHA respiratory protection must be provided.

Personal Protective Equipment: General

When using this material, do not eat, drink or smoke. Wash thoroughly after handling this product.

Material Safety Data Sheet

Material Name: GS3200 LED REV 4 INK

*** Section 9 - Physical & Chemical Properties ***

Appearance: Colored Liquid
Physical State: Liquid
Vapor Pressure: Not Determined
Boiling Point: Not Determined
Specific Gravity: 1.087
Evaporation Rate: Negligible
Octanol/Water Coeff.: Not Determined
Flammability Limit - LFL: Not Determined
Flash Point: >93 C (200 F)

Odor: Mild Acrylate Odor
pH: Not Determined
Vapor Density: Not Determined
Solubility (H2O): Negligible
Freezing Point: Not Determined
VOC % wt (calculated): 0.04
Flammability Limit - UFL: Not Determined
Flash Point Method: Calculated
Auto Ignition: Not Determined

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Stable when stored under proper conditions. See SECTION 7 - Handling & Storage.

Chemical Stability: Conditions to Avoid

Avoid oxidizing agents. Avoid conditions of excessive heat. Avoid direct light and sunlight.

Incompatibility

This product may react with oxidizing agents.

Hazardous Decomposition

Carbon monoxide, carbon dioxide, various hydrocarbon fragments as well as thick smoke.

Possibility of Hazardous Reactions

Polymerization and congealing of product can occur.

*** Section 11 - Toxicological Information ***

Acute Dose Effects

Toxicology studies on humans and/or animals have not been conducted on this product/product family.

A: General Product Information

Toxicology studies on humans and/or animals have not been conducted on this product/product family.

B: Component Analysis - LD50/LC50

Mono Acyl Phosphine Oxide
Oral LD50/rat: > 5,000 mg/kg

Carcinogenicity

No carcinogenicity data available for this product.

A: General Product Information

No carcinogenicity data available for this product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

*** Section 12 - Ecological Information ***

Ecotoxicity

Environmental toxicity and/or biodegradation studies have not been conducted on this product/product family.

A: General Product Information

Environmental toxicity and/or biodegradation studies have not been conducted on this product/product family.

Material Safety Data Sheet

Material Name: GS3200 LED REV 4 INK

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

Discarded material is not expected to be a characteristic hazardous waste under RCRA.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Regulations vary. Consult local authorities before disposal. Waste must be handled in accordance with all federal, state, provincial, and local regulations.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

International Transportation Regulations

Not regulated as dangerous goods.

US DOT Information

Shipping Name: Not regulated as a dangerous good

IATA Information

Shipping Name: Not regulated as dangerous goods.

*** Section 15 - Regulatory Information ***

US Federal Regulations

No information available for the product.

A: General Product Information

No information available for the product.

B: Component Analysis

None of the product components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4), except for the following:
SARA 313: copper compounds in cyan ink.

State Regulations

A: General Product Information

This product does not meet the definition of photochemically reactive as defined under Rule 102 of California SCQMD.

B: Component Analysis - State

None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains trace quantities of a chemical known to the state of California to cause cancer.

Material Safety Data Sheet

Material Name: GS3200 LED REV 4 INK

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

Component Analysis - Inventory

Component	TSCA	CAN	EEC
Tetrahydrofurfuryl acrylate	Yes	NDSL	EINECS
Vinyl Caprolactam	Yes	DSL	EINECS
Isobornyl Acrylate	Yes	DSL	EINECS
Mono Acyl Phosphine Oxide	Yes	DSL	EINECS

*** Section 16 - Other Information ***

Other Information

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State, Provincial and local laws.

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State, Provincial and local laws. This MSDS has been prepared to meet the OSHA Hazard Communication Standard 29 CFR 1910.1200 and follows the format of ANSI Z400-2004. **This product is for industrial or professional use only.**

This MSDS has been prepared to meet the OSHA Hazard Communication Standard 29 CFR 1910.1200 and follows the format of ANSI Z400-2004.

MSDS History

Original Release.

Key/Legend

* Applies only to appropriate color Ink. ACGIH = American Conference of Governmental Industrial Hygienists. OSHA = Occupational Safety and Health Administration. HMIS = Hazardous Material Information System. CFR = Code of Federal Regulations. EPA = Environmental Protection Agency. AIHA = American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL) TSCA = Toxic Substance Control Act. TLV = Threshold Limit Value.

ACGIH = American Conference of Governmental Industrial Hygienists; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average; VLE = Occupational Exposure Limit; VLA-ED = Occupational Exposure Limit

End of Sheet GS3200 REV 4 LED INK

ATTACHMENT I

EMISSION UNITS TABLE

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices

that will be part of this permit application review, regardless of permitting status)

Red: Equipment being Removed; Blue: New Equipment; Green: Relabeled or Renamed

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type ³ and Date of Change	Control Device ⁴
1S1	1E1	Sign Line 1	1982	NA	Existing	NA
1S2	1E2	Sign Line 1 Propane Dryer	1982	0.5 MMBtu/hr	Existing	NA
2S1	2E1	Sign Line 2	1982	NA	Removal	NA
2S2	2E2	Sign Line 2 Propane Dryer	1982	0.5 MMBtu/hr	Removal	NA
3S / 2S	3E / 2E1	Sign Line 3 (renamed Sign Line 2)	1982	NA	Existing	NA
4S1	4E1	Sign Line 4	1982	NA	Removal	NA
4S2	4E2	Sign Line 4 Propane Dryer	1982	0.25 MMBtu/hr	Removal	NA
5S / 3S	5E / 3E1	Sign Line 5 (renamed Sign Line 3)	2006	NA	Existing	NA
6S / 5S	6E / 5E1	Decal Line 1	1982	NA	Existing	NA
7S	7E	Decal Line 2	1982	NA	Removal	NA
8S1 / 6S1	8E1 / 6E1	Decal Line 3 (renamed Decal Inline)	2002	NA	Existing	NA
8S2 / 6S2	8E2 / 6E2	Decal Line 3 (renamed Decal Inline)	2002	NA	Existing	NA
8S3 / 6S3	8E3 / 6E3	Decal Line 3 (renamed Decal Inline)	2002	NA	Existing	NA
8S4 / 6S4	8E4 / 6E4	Decal Line 3 (renamed Decal Inline)	2002	NA	Existing	NA
8S5 / 6S5	8E5 / 6E5	Decal Line 3 (renamed Decal Inline)	2002	NA	Existing	NA
9S1 / 4S1	9E1 / 4E1	Sign Inline	1982	NA	Existing	NA
9S2 / 4S2	9E2 / 4E2	Sign Inline	1982	NA	Existing	NA
9S3 / 4S3	9E3 / 4E3	Sign Inline	1982	NA	Existing	NA
9S4 / 4S4	9E4 / 4E4	Sign Inline	1982	NA	Existing	NA
9S5 / 4S5	9E5 / 4E5	Sign Inline	1982	NA	Existing	NA
10S1 / 7S1	10E1 / 7E1	Flavor Card Process (renamed Small Format Digital Printing Pre-Coat and Finishing)	2008	NA	Existing	NA
10S2 / 7S2	10E2 / 7E2	Flavor Card Process (renamed Small Format Digital Printing Digital Printers)	2001	NA	Existing	NA

ATTACHMENT J

EMISSION POINTS DATA SUMMARY SHEET

**Attachment J
EMISSION POINTS DATA SUMMARY SHEET**

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
1E1/1E2	Vertical Stack	1S1	Sign Line 1 and Sign Line 1 Propane Dryer	NA	NA	NA	NA	CO NOx PM/PM10/PM2.5 SO2 VOC Glycol Ethers Total HAPs	0.01 0.076 0.002 0.005 2.45 2.17 2.17	0.0018 0.0134 0.0004 0.0009 0.25 0.14 0.14	0.01 0.076 0.002 0.005 2.45 2.17 2.17	0.0018 0.0134 0.0004 0.0009 0.25 0.14 0.14	Gas Gas Solid Gas Gas Gas Gas	EE	NA
2E1	Vertical Stack	2S	Sign Line 2	NA	NA	NA	NA	VOC	0.07	0.10	0.07	0.10	Gas	EE	NA
3E1	Vertical Stack	3S	Sign Line 3	NA	NA	NA	NA	VOC	0.07	0.10	0.07	0.10	Gas	EE	NA
4E1, 4E2, 4E3, 4E4, 4E5	Vertical Stack	4S1, 4S2, 4S3, 4S4, 4S5	Sign Inline	NA	NA	NA	NA	VOC	0.53	0.18	0.53	0.18	Gas	EE	NA
5E1	Vertical Stack	5S	Decal Line 1	NA	NA	NA	NA	VOC	0.13	0.10	0.13	0.10	Gas	EE	NA
6E1, 6E2, 6E3, 6E4, 6E5	Vertical Stack	6S1, 6S2, 6S3, 6S4, 6S5	Decal Inline	NA	NA	NA	NA	VOC	0.65	0.10	0.65	0.10	Gas	EE	NA

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPs)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
7E1	Vertical Stack	7S1	Small Format Digital Printing Pre-Coat and Finishing	NA	NA	NA	NA	VOC Ethylbenzene Total HAPs	2.36 0.01 0.01	4.43 0.04 0.04	2.36 0.01 0.01	4.43 0.04 0.04	Gas Gas Gas	EE	NA
7E2	Vertical Stack	7S2	Small Format Digital Printing Digital Printers	NA	NA	NA	NA	VOC	0.94	3.77	0.94	3.77	Gas	EE	NA
8E1	Vertical Stack	8S	Small Format Digital Printing Presstek UV Printer	NA	NA	NA	NA	VOC	0.16	0.72	0.16	0.72	Gas	EE	NA
9E1	Vertical Stack	9S	Small Format Digital Printing UV Finishing Press	NA	NA	NA	NA	VOC Ethylbenzene Total HAPs	0.50 0.02 0.02	2.19 0.10 0.10	0.50 0.02 0.02	2.19 0.10 0.10	Gas	EE	NA
10E1, 11E1, 12E1	Vertical Stack	10S, 11S, 12S	Vutek Printers	NA	NA	NA	NA	VOC	0.06	0.27	0.06	0.27	Gas	EE	NA
14E1	Vertical Stack	14S	Thermo-forming and Trimming	NA	NA	NA	NA	PM PM10 PM2.5	0.25 0.25 0.25	1.11 1.11 1.11	0.25 0.25 0.25	1.11 1.11 1.11	Solid Solid Solid	EE	NA

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Emission point types include: upwind vertical stack, downwind vertical stack, horizontal stack, roof vent, rain cap, etc.
² Short term is defined as 15 minutes.
³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. Do not list H₂, H₂O, N₂, O₂, and Noble Gases.
⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
⁶ Indicate method used to determine emissions rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).
⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 46CSR7). If the pollutant is SO₂, use units of ppmv (see 46CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data

Emission Point ID No. (Must match Emission Units Table)	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)			UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow ¹ (acfm) at operating conditions	Velocity (fps)	Ground Level (Height above mean sea level)	Stack Height ² (Release height of emissions above ground level)	Northing	Easting	
1E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
1E2	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
2E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
3E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
4E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
4E2	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
4E3	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
4E4	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
4E5	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
5E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
6E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
6E2	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
6E3	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
6E4	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
6E5	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
7E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	

Table 2: Release Parameter Data

Emission Point ID No. (Must match Emission Units Table)	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)			UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow ¹ (acfm) at operating conditions	Velocity (fps)	Ground Level (Height above mean sea level)	Stack Height ² (Release height of emissions above ground level)	Northing	Easting	
7E2	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
8E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
9E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
10E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
11E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
12E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	
14E1	0.5	NA	NA	NA	540	NA	4,359.433	252.0.27	

¹ Give at operating conditions. Include inerts.
² Release height of emissions above ground level.
 *See design details in the Appendix.

ATTACHMENT K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS

1.) Will there be haul road activities?

Yes No

If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.

2.) Will there be Storage Piles?

Yes No

If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.

3.) Will there be Liquid Loading/Unloading Operations?

Yes No

If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.

4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation?

Yes No

If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.

5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)?

Yes No

If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.

6.) Will there be General Clean-up VOC Operations?

Yes No

If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.

7.) Will there be any other activities that generate fugitive emissions?

Yes No

If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.

If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants ¹ Chemical Name/CAS ¹	Maximum Potential Uncontrolled Emissions ²		Maximum Potential Controlled Emissions ³		Est. Method Used ⁴
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads						
Unpaved Haul Roads						
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions	VOC Glycol Ethers HAPs	15.40 2.54 4.93	48.01 7.92 13.24	15.40 2.54 4.93	48.01 7.92 13.24	AP42
Other						

¹ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.

² Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

³ Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L
EMISSIONS UNIT DATA SHEET

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 1S1, 1S2

<p>1. Name or type and model of proposed affected source:</p> <p>Sign Line 1 with American Thieme Corp. screen printing press and Raypaul Industries Propane Dryer.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Solvent Ink: 0.40 gal/hr UV Ink: 0.50 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
Propane: 5.45 gal/hr; 1,909 gal/yr			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
NA			
(c) Theoretical combustion air requirement (ACF/unit of fuel):			
10 ft ³ air/ft ³ gas	@	70	°F and 14.7 psia.
(d) Percent excess air: 10			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
500,000 Btu/hr			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
NA			
(g) Proposed maximum design heat input:			
		0.5	× 10 ⁶ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and		psia
a. NO _x	0.076	lb/hr	grains/ACF
b. SO ₂	0.005	lb/hr	grains/ACF
c. CO	0.01	lb/hr	grains/ACF
d. PM ₁₀	0.002	lb/hr	grains/ACF
e. Hydrocarbons		lb/hr	grains/ACF
f. VOCs	2.45	lb/hr	grains/ACF
g. Pb		lb/hr	grains/ACF
h. Specify other(s)			
Glycol Ethers	2.17	lb/hr	grains/ACF
Total HAPs	2.17	lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
As required by the existing permit.

RECORDKEEPING
As required by the existing permit.

REPORTING
As required by the existing permit.

TESTING
As required by the existing permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 2S, 3S

<p>1. Name or type and model of proposed affected source:</p> <p>Sign Line 2 with American Thieme Corp. screen printing press and electric dryer.</p> <p>Sign Line 3 with American Thieme Corp. screen printing press and electric dryer.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Sign Line 2: UV Ink: 0.5 gal/hr</p> <p>Sign Line 3: UV Ink: 0.5 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0.14 (includes both units) lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

As required by the existing permit.

RECORDKEEPING

As required by the existing permit.

REPORTING

As required by the existing permit.

TESTING

As required by the existing permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 4S1/4S2/4S3/4S4/4S5

<p>1. Name or type and model of proposed affected source:</p> <p>Sign Inline with five (5) screen printing presses and five (5) electric UV dryers.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>UV Ink: 2.5 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:		
@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0.53 lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

As required by the existing permit.

RECORDKEEPING

As required by the existing permit.

REPORTING

As required by the existing permit.

TESTING

As required by the existing permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 5S

<p>1. Name or type and model of proposed affected source:</p> <p>Decal Line 1 with American Thieme Corp. screen printing press and electric UV dryer.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>UV Ink: 1.00 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

	@	°F and	psia
a. NO _x		lb/hr	grains/ACF
b. SO ₂		lb/hr	grains/ACF
c. CO		lb/hr	grains/ACF
d. PM ₁₀		lb/hr	grains/ACF
e. Hydrocarbons		lb/hr	grains/ACF
f. VOCs	0.13	lb/hr	grains/ACF
g. Pb		lb/hr	grains/ACF
h. Specify other(s)		lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

As required by the existing permit.

RECORDKEEPING

As required by the existing permit.

REPORTING

As required by the existing permit.

TESTING

As required by the existing permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 6S1, 6S2, 6S3, 6S4, 6S5

<p>1. Name or type and model of proposed affected source:</p> <p>Decal Inline press with five (5) presses and five (5) electric UV dryers.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>UV Ink: 5 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
NA					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
NA					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
10 ft ³ air/ft ³ gas	@	NA	°F and	NA	psia.
(d) Percent excess air: NA					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
NA					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
NA					
(g) Proposed maximum design heat input: NA × 10 ⁶ BTU/hr.					
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0.65 lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

As required by the existing permit.

RECORDKEEPING

As required by the existing permit.

REPORTING

As required by the existing permit.

TESTING

As required by the existing permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 7S1, 7S2

<p>1. Name or type and model of proposed affected source:</p> <p>Small Format Digital Printing Pre-Coat and Finishing</p> <p>Small Format Digital Printing Digital Printers</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Small Format Digital Printing Pre-Coat and Finishing: Primer: 0.33 gal/hr and White Finish: 0.33 gal/hr or Clear Finish: 0.33 gal/hr</p> <p>Small Format Digital Printing Digital Printers: Digital Printer 1 - UV Ink: 0.063 gal/hr; Imaging Agent: 0.01 gal/hr; Imaging Oil: 0.01 gal/hr Digital Printer 2 - UV Ink: 0.071 gal/hr; Imaging Agent: 0.01 gal/hr; Imaging Oil: 0.01 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:			
@	°F and		psia
a. NO _x		lb/hr	grains/ACF
b. SO ₂		lb/hr	grains/ACF
c. CO		lb/hr	grains/ACF
d. PM ₁₀		lb/hr	grains/ACF
e. Hydrocarbons		lb/hr	grains/ACF
f. VOCs	3.30 (includes pre-coat, finishing and printers)	lb/hr	grains/ACF
g. Pb		lb/hr	grains/ACF
h. Specify other(s)			
Ethylbenzene	0.01 (includes pre-coat, finishing and printers)	lb/hr	grains/ACF
Total HAPs	0.01 (includes pre-coat, finishing and printers)	lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
As required by the existing permit.

RECORDKEEPING
As required by the existing permit.

REPORTING
As required by the existing permit.

TESTING
As required by the existing permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 8S, 9S

<p>1. Name or type and model of proposed affected source:</p> <p>Small Format Digital Printing Presstek UV Printer</p> <p>Small Format Digital Printing UV Finishing Press</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Small Format Digital Printing Presstek UV Printer: UV Ink: 0.28 gal/hr</p> <p>Small Format Digital Printing UV Finishing Press: Clear Coat: 0.5 gal/hr White Finish: 0.5 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0.66 (includes printer and finishing press)	lb/hr grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)		
Ethylbenzene	0.02 (includes printer and finishing press)	lb/hr grains/ACF
Total HAPs	0.02 (includes printer and finishing press)	lb/hr grains/ACF
		lb/hr grains/ACF
		lb/hr grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Aggregated usage inventories are conducted monthly.

RECORDKEEPING

Twelve month rolling totals are kept on a monthly basis to track total ink, clear coat, and white finish usage. Such records shall be retained on-site by the permittee for at least five (5) years. Records shall be made available to the Director or duly authorized representative upon request.

REPORTING

As required by Division of Air Quality.

TESTING

No testing is proposed.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 10S, 11S, 12S

<p>1. Name or type and model of proposed affected source:</p> <p>Vutek Digital Press 1, 2, and 3. Model # GS2000LX Pro (all 3 units are the same model)</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Usage per printer: UV Ink: 0.54 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Printed Media</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
-----------	----	-----------	---	------------	----

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0.06 (all units)	lb/hr grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 Aggregated usage inventories are conducted monthly.

RECORDKEEPING
 Twelve month rolling totals are kept on a monthly basis to track total ink usage. Such records shall be retained on-site by the permittee for at least five (5) years. Records shall be made available to the Director or duly authorized representative upon request.

REPORTING
 As required by Division of Air Quality.

TESTING
 No testing is proposed.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 13S

<p>1. Name or type and model of proposed affected source:</p> <p>Clean Up Solvents</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Washer Solvent: 0.56 gal/hr Butyl Cellosolve: 0.16 gal/hr Easisolv 101: 0.40 gal/hr S.P.I.F II: 0.03 gal/hr QV-017: 0.01 gal/hr Misc. Solvents: 0.32 gal/hr</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Cleaned screens and polycarbonate sheets</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	15.40 lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)		
Glycol Ethers	2.54 lb/hr	grains/ACF
Total HAPs	4.93 lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

As required by the existing permit.

RECORDKEEPING

As required by the existing permit.

REPORTING

As required by the existing permit.

TESTING

As required by the existing permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

**Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 14S

<p>1. Name or type and model of proposed affected source:</p> <p>Thermoforming and Trimming consisting of four (4) thermoformers (3 existing, 1 proposed) and three (3) trimmers</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Thermoplastic sheets: Seven 10 lb. sheets/hr (70 lb/hr) per unit</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Formed and trimmed sheets</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>NA</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ NA °F and NA psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:		
@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	0.25 (all units) lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)		
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 Monitoring is not proposed.

RECORDKEEPING
 Maintain record of number of thermoplastic sheets processed.

REPORTING
 As required by Division of Air Quality.

TESTING
 No testing is proposed.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

ATTACHMENT N
SUPPORTING EMISSIONS CALCULATIONS

By: JJD
Date: 08/24/2016

Checked By: PEW
Date: 9/27/16

**Small Format Digital Printing - Digital Printers and Coater (7S1/7E1, 7S2/7E2)
(Re-calculated Flavor Card Process emissions)**

Emission Type	lb/hr	tpy
VOC	3.30	8.20
Ethylbenzene	0.01	0.04
Total HAPs	0.01	0.04

**Small Format Digital Printing - Presstek UV Printer and UV
Finishing Press (8S/8E1, 9S/9E1)**

Emission Type	lb/hr	tpy
VOC	0.66	2.91
Ethylbenzene	0.02	0.10
Total HAPs	0.02	0.10

Vutek Emissions (10S/10E1, 11S/11E1, 12S/12E1)

Emission Type	lb/hr	tpy
VOC	0.06	0.27

Thermoforming/Trimming Emissions (14S/14E1)

Emission Type	lb/hr	tpy
PM/PM10/PM2.5	0.25	1.11

**Decal Inline - 6S1/6E1, 6S2/6E2, 6S3/6E3, 6S4,6E4, 6S5/6E5
(Increased UV Ink usage rate)**

Emission Type	lb/hr	tpy
VOC	0.65	0.10

**Total Emissions
(New Equipment and Re-Calculated Flavor Card / Decal Inline
Emissions)**

Emission Type	lb/hr	tpy
CO	0	0
NOx	0	0
PM/PM10/PM2.5	0.25	1.11
SO2	0	0
VOC	4.67	11.48
Ethylbenzene	0.03	0.14
Glycol Ethers	0	0
Total HAPs	0.03	0.14

Change in Emissions

Emission Type	lb/hr	tpy
CO	-0.02	-0.003
NOx	-0.11	-0.02
PM/PM10/PM2.5	0.25	1.11
SO2	-0.003	-0.001
VOC	-14.51	6.74
Ethylbenzene	0.03	0.14
Glycol Ethers	-4.34	-0.28
Total HAPs	-4.31	-0.14

Proposed PTE

Emission Type	lb/hr	tpy
CO	0.01	0.002
NOx	0.08	0.01
PM/PM10/PM2.5	0.25	1.11
SO2	0.01	0.001
VOC	23.32	60.22
Ethylbenzene	0.03	0.14
Glycol Ethers	4.71	8.06
Total HAPs	7.13	13.52

By: JJD
Date: 08/24/2016

Checked By: FEW
Date: 9/27/16

Existing PTE^{1,2}

Sign Line 1 (1S1, 1E1/1E2)(1S1/1E1, 1S2/1E2)²

Emission Type	lb/hr	tpy
CO	0.01	0.0018
NOx	0.076	0.0134
PM/PM10/PM2.5	0.002	0.0004
SO2	0.005	0.0009
VOC	2.45	0.25
Total HAPs	2.17	0.14
Glycol Ethers	2.17	0.14

Sign Line 2 (2S, 2E1/2E2)²

Emission Type	lb/hr	tpy
CO	0.01	0.0018
NOx	0.076	0.0134
PM/PM10/PM2.5	0.002	0.0004
SO2	0.005	0.0009
VOC	2.45	0.25
Total HAPs	2.17	0.14
Glycol Ethers	2.17	0.14

Sign Line 3 (3S, 3E) (Renamed Sign Line 2 - 2S/2E1)²

Emission Type	lb/hr	tpy
VOC	0.07	0.10

Sign Line 4 (4S, 4E1/4E2)²

Emission Type	lb/hr	tpy
CO	0.005	0.0009
NOx	0.038	0.0067
PM/PM10/PM2.5	0.001	0.0002
SO2	0.003	0.0005
VOC	2.45	0.25
Total HAPs	2.17	0.14
Glycol Ethers	2.17	0.14

Existing PTE

Emission Type	lb/hr	tpy
CO	0.025	0.005
NOx	0.19	0.034
PM/PM10/PM2.5	0.005	0.001
SO2	0.013	0.002
VOC	37.83	53.48
Total HAPs	11.44	13.66
Glycol Ethers	9.05	8.34

PTE with Equipment Removed⁴

Emission Type	lb/hr	tpy
CO	0.01	0.002
NOx	0.08	0.01
PM/PM10/PM2.5	0.002	0.0004
SO2	0.01	0.001
VOC	18.65	48.74
Total HAPs	7.10	13.38
Glycol Ethers	4.71	8.06

Sign Line 5 (5S, 5E) (Renamed Sign Line 3 - 3S/3E1)²

Emission Type	lb/hr	tpy
VOC	0.07	0.10

Decal Line 1 (6S, 6E) (New IDs: 5S/5E1)²

Emission Type	lb/hr	tpy
VOC	0.13	0.10

Decal Line 2 (7S, 7E1/ 7E2)²

Emission Type	lb/hr	tpy
VOC	0.13	0.10

Decal Line 3 (8S, 8E1/8E2/8E3/8E4/8E5) (Renamed Decal In-Line - 6S1/6E1, 6S2/6E2, 6S3/6E3, 6S4/6E4, 6S5/6E5)²

Emission Type	lb/hr	tpy
VOC	0.13	0.10

Sign Inline 1 (9S, 9E1/9E2/9E3/9E4/9E5) (New IDs: 4S1/4E1, 4S2/4E2, 4S3/4E3, 4S4/4E4, 4S5/4E5)¹

Emission Type	lb/hr	tpy
VOC	0.53	0.18

Flavor Card Process (10S/10S2, 10E1/10E2) ¹

Emission Type	lb/hr	tpy
VOC	14.0	4.0

Cleanup Solvents (11S, 11E) (13S/13E1) - Fugitive¹

Emission Type	lb/hr	tpy
VOC	15.40	48.01
Glycol Ethers	2.54	7.92
Total HAPs ³	4.93	13.24

Inca UV Printer (12S, 12E)¹

Emission Type	lb/hr	tpy
VOC	0.02	0.04

1. Emissions taken from Permit R13-2317F.

2. Emissions taken from ERSG Permit Application for R13-2317F

3. At the time the R13-2317F permit application was completed, the washer solvent contained no HAPs, but for operational flexibility it was assumed future washer solvents may contain HAPs other than glycol ethers, so a total HAP limit above the glycol ethers emissions total was requested. Other cleanup solvents used at the facility only contain the glycol ethers HAP.

4. To calculate the PTE with equipment removed includes treating the Flavor Card Line emissions and Decal Inline as though they are being removed. However, the equipment is not being removed, but the emissions were recalculated (page N3 and N7) due to changes in material usage and to add the small format digital printers as emission units.

- Equipment colored red is being removed; Green text signifies a change in emission unit description and/or emission unit ID; Blue text represents emissions that were re-calculated (pages N3 and N7).

By: JJD
Date: 08/24/2016

Checked By: PEW
Date: 9/27/16

Small Format Digital Printing - Digital Printers and Coater (7S1/7E1, 7S2/7E2)

Precoat

Material = Special Primer (replaces Topaz 2)

VOC = 6.155 lb/gal
Max. Hourly Usage = 0.33 gal/hr
Max. Yearly Usage = 1,157 gal/yr*(1)
VOC = 2.03 lb/hr
VOC = 3.56 tpy

Precoat Emissions

Emission Type	lb/hr	tpy
VOC	2.03	3.56

* Precoating accounts for approximately 40% of coater activity and finishing accounts for approximately 60% of coater activity.

Digital Printer 1 (S2000)

Material = Imaging Agent

VOC = 710 g/l
Conversion Factor = 0.00835 from g/l to lb/gal
VOC = 5.93 lb/gal
Max. Hourly Usage = 0.01 gal/hr
Max. Yearly Usage = 15 gal/yr (1, 2)
VOC = 0.06 lb/hr
VOC = 0.04 tpy

Material = HP Imaging Oil

VOC = 760 g/l
Conversion Factor = 0.00835 from g/l to lb/gal
VOC = 6.34 lb/gal
Max. Hourly Usage = 0.01 gal/hr
Max. Yearly Usage = 87.6 gal/yr (1)
VOC = 0.06 lb/hr
VOC = 0.28 tpy

Digital Printer 1 Emissions

Emission Type	lb/hr	tpy
VOC	0.45	1.77

Material = HP ElectroInk 3.1

VOC = 630 g/l
Conversion Factor = 0.00835 from g/l to lb/gal
VOC = 5.26 lb/gal
Max. Hourly Usage = 0.063 gal/hr
Max. Yearly Usage = 552 gal/yr (1)
VOC = 0.33 lb/hr
VOC = 1.45 tpy

Digital Printer 2 (S600)

Material = HP Imaging Agent 4.2

VOC = 655 g/l
Conversion Factor = 0.00835
VOC = 5.47 lb/gal
Max. Hourly Usage = 0.01 gal/hr
Max. Yearly Usage = 15 gal/yr (1)
VOC = 0.05 lb/hr
VOC = 0.04 tpy

Material = HP ElectroInk 4.0 Magenta

VOC = 5.39 lb/gal
Max. Hourly Usage = 0.071 gal/hr
Max. Yearly Usage = 622 gal/yr (1)
VOC = 0.38 lb/hr
VOC = 1.68 tpy

Digital Printer 2 Emissions

Emission Type	lb/hr	tpy
VOC	0.49	2.00

Material = Imaging Oil 4.0

VOC = 6.38 lb/gal
Max. Hourly Usage = 0.01 gal/hr
Max. Yearly Usage = 87.6 gal/yr (1, 2)
VOC = 0.06 lb/hr
VOC = 0.28 tpy

Finishing

Material = Special UV White

VOC = 1.00 lb/gal
Weight per Gallon = 11 lb/gal
Max. Hourly Usage = 0.33 gal/hr
Max. Yearly Usage = 1,735 gal/yr**(1)
VOC = 0.33 lb/hr
VOC = 0.87 tpy

Finishing Emissions

Emission Type	lb/hr	tpy
VOC*	0.33	0.87
Ethylbenzene*	0.01	0.04

Material = Special UV Low Viscosity NSC Clear***

Ethylbenzene = 0.5 percent
Weight per Gallon = 9.07 lb/gal
Max Hourly Usage = 0.33 gal/hr
Max Yearly Usage = 1,735 gal/yr**(1)
Ethylbenzene = 0.01 lb/hr
Ethylbenzene = 0.04 tpy

* Finishing can be split between clear (Special UV Low Viscosity NSC Clear) and white (Special UV White). For a conservative estimate, potential VOC emissions were calculated from Special UV White due to its higher VOC content and ethylbenzene was calculated from Special UV Low Viscosity NSC Clear.

** Precoating accounts for approximately 40% of coater activity and finishing accounts for approximately 60% of coater activity.

*** Per the MSDS, the component glycol ether acrylate is classified as a glycol ether, but it is considered a reactive chemical in ultraviolet curable inks. Once initiated by a high dose of ultraviolet light, this glycol ether acrylate rapidly polymerizes (i.e. hardens) and becomes part of the ink film. The polymerization process of UV curable inks is measured in milliseconds. Consequently, there are no emissions of this compound.

Pre-Coat and Finishing Emissions (7S1/7E1)

Emission Type	lb/hr	tpy
VOC	2.36	4.43
Ethylbenzene	0.01	0.04
Total HAPs	0.01	0.04

Digital Printers Emissions (7S2/7E2)

Emission Type	lb/hr	tpy
VOC	0.94	3.77

Total Small Format Digital Printing and Coating Emissions

Emission Type	lb/hr	tpy
VOC	3.30	8.20
Ethylbenzene	0.01	0.04
Total HAPs	0.01	0.04

- (1) Yearly usages are based on 8,760 hours per year except for the digital printers' Imaging Agent.
(2) Five (5) gallons per year of Imaging Agent use for each printer was provided by DALB. The amount of yearly Imaging Agent usage was increased to fifteen (15) gallons per year to provide a more conservative emissions estimate and to allow more flexibility in yearly usage.

By: JJD
Date: 08/24/2016

Checked By: PEW
Date: 9/27/16

Small Format Digital Printing - Presstek UV Printer and UV Finishing Press (8S/8E1, 9S/9E1)

Presstek UV Printer (8S/8E1)

Material = UV 171 Range of Inks

Specific Gravity = 1.4
Weight = 11.68 lb/gal
VOC = 5 Percent
Max. Hourly Usage = 0.28 gal/hr
Max. Yearly Usage² = 2,453 gal/yr
VOC = 0.16 lb/hr
VOC = 0.72 tpy

UV Finishing Press (9S/9E1)¹

Material = Special UV Low Viscosity NSC Clear³

Weight = 9.07 lb/gal
VOC = 0.1 lb/gal
Ethylbenzene = 0.5 percent
Max. Hourly Usage = 0.5 gal/hr
Max. Yearly Usage² = 4,380 gal/yr
VOC = 0.05 lb/hr
VOC = 0.22 tpy
Ethylbenzene = 0.02 lb/hr
Ethylbenzene = 0.10 tpy

Material = Special UV White

VOC = 1.00 lb/gal
Max. Hourly Usage = 0.50 gal/hr
Max. Yearly Usage² = 4,380 gal/yr
VOC = 0.50 lb/hr
VOC = 2.19 tpy

Total Emissions from Presstek Printing and Finishing

Emission Type	lb/hr	tpy
VOC	0.66	2.91
Ethylbenzene	0.02	0.10
Total HAPs	0.02	0.10

1. Finishing can be split between clear (Special UV Low Viscosity NSC Clear) and white (Special UV White). For a conservative estimate, potential VOC emissions were calculated from Special UV White due to its higher VOC content and ethylbenzene was calculated from Special UV Low Viscosity NSC Clear.

2. Yearly usages are based on 8,760 hours per year.

3. Per the MSDS, the component glycol ether acrylate is classified as a glycol ether, but it is considered a reactive chemical in ultraviolet curable inks. Once initiated by a high dose of ultraviolet light, this glycol ether acrylate rapidly polymerizes (i.e. hardens) and becomes part of the ink film. The polymerization process of UV curable inks is measured in milliseconds. Consequently, there are no emissions of this compound.

By: JJD
Date: 08/24/2016

Checked By: PEW
Date: 9/27/16

Vutek Printers (10S1/10E1, 10S2/10E2, 10S3/10E3)

Specific Gravity = 1.087
VOC weight = 0.4 percent
Ink Weight = 9.07 lb/gal
VOC Content = 0.036 lb/gal
Number of Printers = 3

Emission Type	Ink Usage (per printer)		1 Printer		3 Printers	
	gal/hr	gal/yr	lb/hr	tpy	lb/hr	tpy
VOC	0.54	4,730	0.02	0.09	0.06	0.27

By: JJD
 Date: 08/24/2016

Checked By: PEW
 Date: 9/27/16

Thermoforming and Trimming (14S/14E1)

Number of Units = 3

Thermoforming (electric heating)

Emission Type	Throughput		1 Unit		4 Units	
	lb/hr	lb/yr	lb/hr	tpy	lb/hr	tpy
PM/PM10/PM2.5	70	613,200	De Minimis			

Trimming

Emission Type	Throughput		1 Unit		3 Units	
	lb/hr	lb/yr	lb/hr ¹	tpy	lb/hr	tpy
PM/PM10/PM2.5	70	613,200	0.084	0.37	0.25	1.11

1. Lb/hr from 45CSR7 Table 45-7A, Type 'a.' Table 45-7A assumes that 2,500 lb/hr of material processed equates to 3 lb/hr of particulate emissions . DALB processes 70 pounds of material per hour per unit, so the hourly particulate emissions for one (1) unit are based on prorating DALB's throughput based on the previous assumption ($[70 \text{ lb/hr} \div 2,500 \text{ lb/hr}] * 3 \text{ lb/hr} = 0.084 \text{ lb/hr PM}$).

By: JJD
Date: 08/24/2016

Checked By: PEW
Date: 9/27/16

Decal Inline (6S1/6E1, 6S2/6E2, 6S3/6E3, 6S4/6E4, 6S5/6E5)

Existing UV Ink Usage = 1 gal/hr
New UV Ink Usage Rate = 5 gal/hr (1)
Yearly Ink Usage = 1,600 gal/yr (2)
VOC Content = 0.13 lb/gal (3)

Emission Type	Existing Emissions		Proposed Emissions	
	lb/hr	tpy	lb/hr	tpy
VOC	0.13	0.10	0.65	0.10

- (1) The Decal Inline (previously named Decal Line 3) hourly ink usage rate was previously permitted at 1 gal/hr of UV ink which is the same rate as other decal presses at the facility. The Decal Inline consists of five (5) separate presses, and each of the five (5) presses can use 1 gal/hr for a total of 5 gal/hr ink usage.
- (2) UV ink usage is not to exceed 16,000 gallons for all units. Usage distribution may vary depending on which units are operated.
- (3) Pounds per gallon of VOC taken from R13-2317F permit application.

ATTACHMENT O

**MONITORING/RECORDKEEPING/REPORTING/TESTING
PLANS**

ATTACHMENT O

MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS

DALB, Inc. requests monitoring, recordkeeping, reporting and testing as stated in the existing permit.

ATTACHMENT P
PUBLIC NOTICE

LEGAL ADVERTISEMENT

AIR QUALITY PERMIT NOTICE Notice of Application

Notice is given that DALB, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for an After-the-Fact Modification of Permit R13-2317F at their facility located on Industrial Boulevard in Kearneysville, Jefferson County, West Virginia. The latitude and longitude coordinates are: 39.349490 and -77.877054.

The applicant estimates the potential increase to discharge the following Regulated Air Pollutants will be: PM of 1.11 tons per year (tpy); PM10 of 1.11 tpy; PM2.5 of 1.11 tpy; VOC of 6.74 tpy; and Ethylbenzene of 0.14 tpy.

Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, Extension 1250, during normal business hours.

Dated this the (PLEASE INSERT DATE) day of December, 2016.

By: DALB, Inc.
Kevin L. Steeley
President
105 Industrial Boulevard
Kearneysville, WV 25430