1: PRODUCT INFORMATION

MANUFACTURED FOR: **IMAGE GROUP** 2284 SPEERS ROAD OAKVILLE, ONTARIO L6L 2X8 905) 825-5600

CHEMICAL FAMILY MATERIAL USE PRODUCT IDENTIFICATION T.D.G. CLASSIFICATION WHMIS CLASSIFICATION HEALTH REACTIVITY

TRADENAME: **IMAGEFLEX ® PPT SERIES INKS**

SOLVENT BASED INK PRINTING INK UN 1210 CLASS 3 PG II CONTROLLED (B-2, D-2A, D-2B) 2 FLAMMABILITY 3 0 PERSONAL PROTECTION В

2: COMPOSITION (HAZARDOUS COMPONENTS)

The components listed below are identified as hazardous chemicals based upon the criteria of WHMIS and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS Number	Concentration (wt %)
n-Propyl Alcohol	71-23-8	10 - 25
Isopropyl Alcohol	67-63-0	5 - 10
Light Aliphatic Solvent N	64742-89-8	5 - 10
Paraffin Wax	8002-74-2	5 - 10
Light Aliphatic Solvent NAPT	64742-89-8	2.5 - 5
Ethanol	64-17-5	1 – 2.5
Aluminum Hydroxide	21645-51-2	1 – 2.5

For further information on the individual hazardous component(s) listed above, please refer to the Toxicological Information section of the MSDS (Section 11).

3. PRODUCT HAZARDS IDENTIFICATION

Emergency Overview

Flammable Liquid and Vapour Material may be irritating to skin and eyes. May cause respiratory tract irritation. Aspiration hazard if swallowed. May cause central nervous system effects.

Potential Health Effects

Inhalation and dermal contact are expected to be the primary routes of occupational exposure. The following statements are based upon an assessment of the health effects associated with the components present in this product mixture.

Eye	This product may cause mild to moderate eye irritation. Direct contact or excessive exposure to vapours may cause redness, tearing and stinging.
Skin	This product may cause mild to moderate skin irritation. Prolonged or repeated exposure may result in contact dermatitis which is characterized by redness, itching, drying and/or cracking of the skin.
Inhalation	Inhalation of excessive quantities of vapours may cause irritation of the nose, throat and respiratory tract, as well as headache, nausea, dizziness, loss of coordination and fatigue.
Ingestion	Ingestion of this product may cause gastrointestinal irritation, headache, nausea, vomiting, diarrhea, dizziness, loss of coordination and fatigue. This product contains component(s) that may present an aspiration hazard. Small amounts of this liquid drawn into the lungs during ingestion or vomiting may cause pulmonary injury.
Chronic Effects	Chronic overexposure may result in liver abnormalities. Medical conditions aggravated by exposure: Pre-existing skin disorders may be aggravated by exposure to this product. Impaired respiratory functions from pre-existing medical conditions may be aggravated by exposure to this product.

Eye Contact	Get medical attention immediately. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
Skin Contact	Get medical attention immediately. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing or wear gloves.

5. FIRE FIGHTING MEASURES

Flash Point (degree F)	Less than 73 F (Closed Cup)	
Flash Point Category (OSHAINFPA)		1B - Flammable
Lower Flammability Limit in Air (%	by Vol)	1.0
NOTE: Flash point value/category h	as been derived	d from testing of products of similar composition.
Extinguishing Media	Extinguish with a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide.	
Fire Fighting Instructions	The use of self-contained breathing apparatus is recommended for firefighters. Water spray may be used to cool containers exposed to heat near flame. Avoid spreading burning liquid with water used for cooling purposes.	
Fire and Explosion Hazards	This product is containers may air, may travel occur.	(OSHA) flammable and may be ignited by heat, sparks, flame or static electricity. Closed v build up pressure and rupture when subjected to extreme heat. Vapours are heavier than along the ground and may be moved by ventilation. Flashback along vapour trail may

6. ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition. Keep unnecessary personnel away from spill area. Ventilate area of spill; use appropriate personal protective equipment.

For large spills, multipurpose foam may be used to suppress vapours. Contain the spill by diking with sand or other inert material, Keep out of drains, sewers or waterways. Transfer product to suitable containers for recovery or disposal. Use explosion proof equipment and non-sparking tools. Do not flush area with water. If necessary, follow emergency response procedures.

For small spills, do not flush with water; use an inert absorbent material.

7. HANDLING AND STORAGE

Keep containers tightly closed. Keep containers cool, dry and away from all sources of ignition. Bond and ground all equipment when transferring material from one container to another. Use and store this product with adequate ventilation. Use appropriate protective equipment when handling this product and maintain good personal hygiene practices.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Not available.	ACGIH TLV (United States, 1/2006). Notes: ACGIH 2004 Adoption
	STEL: 400 ppm 15 minute/minutes. Form: All forms
Not available	I WA: 200 Ppm 8 nour/nours, Form: All forms ACCILITIV (Insisted States 1/2006). Notes: Defers to Appendix A., Carsinggaps, ACCILI 2002 Adoption
NOT AVAIIADIE.	ACGIN TLV (UTILIED States, 1/2006). NOTES: REFERS TO Appendix ACarcinogens. ACGIN 2003 Adoption
	TWA: 200 ppm 15 minute/minutes. Form: All forms
Not available	ACCILITIV (Initial States 1/2006)
Not available.	TWA: 2 ma/m2 share form: Fumo
Not available	ACCILITIV (Initial States 1/2006) Notes: 1006 Adoption Defers to Appendix A., Carcinogens
	TWA: 1880 ma/m3 8 hour/hours Form: All forms
	TWA: 1000 ppm 8 hour/hours form: All forms
Not available	ACCILITIV (Initial States 1/2006)
	TWA 2 ma/m3 8 hours form: Soluble
Consult local authorities for a	acceptable exposure limits.
Engineering measures	Use only with adequate ventilation. If user operations generate dust fumes vanor or mist use process
Engineering measures	enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne
	contaminants below any recommended or statutory limits. The engineering controls also need to keep
	gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation
	equipment.
Personal protection	- 1
Eve	Safety evewear complying with an approved standard should be used when a risk assessment indicates
5	this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Skin	Personal protective equipment for the body should be selected based on the task being performed and the
	risks involved and should be approved by a specialist before handling this product.
Respiratory	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk
1 5	assessment indicates this is necessary. Respirator selection must be based on known or anticipated
	exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hands	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times
	when handling chemical products if a risk assessment indicates this is necessary.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and
	using the lavatory and at the end of the working period. Appropriate techniques should be used to remove
	potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash
	stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point f Range (degree F)	The lowest known value is 78.3°C / 173° F
Typical Density (lbs/gal)	7.33
Melting/freezing point	May start to solidify at -88.88°C (-128°F) based on data for: Isopropyl
	Alcohol. Weighted average: -114.21°C (-173.6°F)
Flash point	The lowest know value is -18 to-23°C / -0.4 to 73.4°F
VOC	41.7%
Auto-ignition temperature	The lowest know value is 370.8 to 439.9°C / 699.5 to 823.7
Density	1.137 gm/cm3 – 9.489 lbs/gal
Vapour Density (excluding water) Air = 1	Heavier >1
Evaporation Rate (vs. Butyl Acetate)	Faster
Appearance	Coloured Liquid
Volatile Organic Compounds (wt%)	50

10. STABILITY AND REACTIVITY

Stability	Stable. Hazardous polymerization will not occur.
Conditions to Avoid	Keep product away from heat, sparks, and open flames.
Incompatibility	This product is incompatible with strong acids or bases and oxidizing agents.
Hazardous Decomposition Products	By high heat and fire: carbon dioxide, carbon monoxide and/or oxides of nitrogen and
·	sulphur.

11. TOXICOLOGY OF COMPONENTS

loxicity data	
Specific remarks on toxicity to animals	Not available
Specific remarks on chronic effects on humans	Not available
Special remarks on other toxic effects on humans	Not available

Specific effects	
Carcinogenic effects No known significant effects or c	ritical hazards
Mutagenic effects No known significant effects or critical hazards	
Teratogenicity / Reproductive toxicity No known significant effects or c	ritical hazards

Irritant/Sensitization Ingestion Inhalation Eyes Skin Synergistic products

May cause burns to mouth, throat and stomach No known significant effects or critical hazards Irritating to eyes Corrosive to skin Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity data: Harmful to aquatic organisms. May cause long-term effects in the aquatic environment

N-Propyl Alcohol	Daphnia magna (EC50)	48 hour/hours	3644 mg/l
	Daphnia magna (EC50)	48 hour/hours	4620 mg/l
	Pimephales promelas (LC50)	96 hour/hours	4480 mg/l
	Pimephales promelas (LC50)	96 hour/hours	4630 mg/l
Isopropyl Alcohol	Pimephales promelas (EC50)	48 hour/hours	10000 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	>1400 mg/l
	Pimephales promelas (LC50)	96 hour/hours	6550 mg/l
	Pimephales promelas (LC50)	96 hour/hours	9640 mg/l
	Pimephales promelas (LC50)	96 hour/hours	10400 mg/l
	Pimephales promelas (LC50)	96 hour/hours	11130 mg/l
Ethanol	Daphnia magna (EC50)	48 hour/hours	2 mg/l
	Daphnia magna (EC50)	48 hour/hours	9.3 mg/l
	Daphnia magna (EC50)	48 hour/hours	>100 mg/l
	Daphnia magna (LC50)	96 hour/hours	>100 mg/l
	Pimephales promelas (LC50)	96 hour/hours	>100 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	13000 mg/l
Octanol/water partition coefficient Bioconcentration factor BOD and COD Biodegradable/OECD Mobility	Not available Not available Not available Not available Not available		

Toxicity of the products of biodegradation

13. DISPOSAL CONSIDERATIONS

Products of degradation

The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

(NO, NO2 etc.). Some metallic oxides

These products are carbon oxides (CO, CO2) and water, nitrogen oxides

The products of degradation are less toxic than product itself

14. REGULATORY INFORMATION

Toxic Substances Control Act (TSCA)

The chemical components of this product are listed or have been registered for inclusion on the Section 8(B) Chemical Substance Inventory List (40 CFR 710). This product contains a chemical which is reportable under the export notification requirements of TSCA, Section 12(B).

EPCRA Section 313 Supplier Notification

This product does not contain any substances in quantities which roust be reported under the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1956 (4(I CFR 372).

Clean Air Act Amendment (HAPs)

This product contains the following substance(s) which are defined as Hazardous Air Pollutants under Title III of the Clean Air Act Amendments of 1990.

Chemical Name	CAS #	Concentration (wt %)
Xylene (Mixed isomers)	1330-20-7	0.30
Toluene	108-88-3	3.25
i=thylbenzene	100-41-4	0.10

Clean Air Act Amendment (ODC's)

This product does not contain, and is not manufactured with any of the ozone depleting chemicals listed under Section 602 of the Clean Air Amendments of 1990.

California Proposition 65

WARNING - This product contains the following chemical(s) known to the state of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS #	Concentration (wt %)
Toluene	108-88-3	0.25
CONEG		

This product is certified to be in full compliance with CONEG Model Toxics Legislation for packaging and packaging components.

OSHA Hazard Communication Label for Product WARNING!

FLAMMABLE LIQUID AND VAPOR MAY CAUSE SKIN AND EYE IRRITATION MAY CAUSE RESPIRATORY TRACT IRRITATION ASPIRATION HAZARD IF SWALLOWED MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS Please refer to the MSDS for more details. Keep away from heat, sparks and flame. Keep containers closed, Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Use appropriate personal protective equipment. Avoid breathing vapour. Wash thoroughly after handling. FIRST AID: In case of contact, flush eyes or skin with plenty of water. Remove contaminated clothing. Seek medical attention if irritation develops or persists. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention. IN CASE OF FIRE: Use a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide. Empty containers may retain product residues; all hazard precautions on this label should be observed. DO NOT REMOVE THIS LABEL. WHMIS (Classification) Class B-2: Flammable liquid Class D-2A: Material causing other toxic effects (Very toxic).

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

Class D-2B: Material causing other toxic effects (Toxic).

15. ADDITIONAL COMMENTS

CANADA INVENTORY (DSL)

Hazardous Materials Information System (HMIS)

Health 2 Flammability 3 Reactivity 0

Listed

NOTICE: These ratings are intended only for the immediate and general identification of acute hazards. The Image Group is providing this information on a voluntary basis as a guide for our customers. The use and interpretation of this information may vary from company to company. All information contained in this data sheet should be considered in order to adequately deal with the safe handling of this material.

Revision Date July 2013

The information presented in this data sheet represents a compilation of information generated from our suppliers and other recognized sources of scientific evidence and chemical information. To the best of our knowledge and belief, it is accurate and reliable as of the date of issue. However, no warranty, express or implied, including any warranty of merchantability, fitness for any use, or any other guarantee is offered or implied regarding the accuracy of such data, the results to be obtained from the use thereof, the safety of this product, or the hazards connected with the use of this material. Since the conditions of handling and use of this material are beyond our control, Image Group shall assume no liability for damages incurred by the use of the material. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability and completeness of this information, the safety measures necessary to handle this product, and the actions needed to comply with all applicable Federal, State, and Local Legislation.

POISON CONTROL CENTRE 800-268-9017

CANUTEC (Canada) 24 HOUR EMERGENCY SERVICE 613-996-6666

VOLATILE COMPONENT INFORMATION

US EPA Designate

A. Product Density:				
1.)	1.137 g/cm3 (9.489 lbs/gal)	=(Dc)s		
B. Non-vo	platile Content:			
1.)	58.3 Weight percent of non-volatiles in product	=(Wn)s		
2.)	39.24 Volume percent of non-volatiles in product	=(Vn)s		
3.)	14.09 Density, lb non-volatiles/gal non-volatiles	=(Dn)s		
C. Volatile	25:			
1.)	41.7 Weight percent of total volatiles in product	=(M)S		
2.)	6.51 Density, lb volatiles/gal volatiles	=(Dv)s		
D. Water Content:				
1.)	0.00 Weight percent of water in product	=(Ww)s		
2.)	0.00 Volume percent of water in product	=(VW)S		
E. Organi	c Volatiles, (VOCs):			
1.)	41.7 Weight percent of organic volatiles in product	=(Wo)s		
2.)	60.74 Volume percent of organic volatiles in product	=(Vo)s		
3.)	6.51 Density, lb organic volatile\$ /gal organic volatiles	=(Do)s		
4.)	100.[10 Weight percent of VOCs in total volatiles	=(Wo)s		
5.)	100.00 Volume percent of VOCs in total volatiles	=(VO)s		
	optant in Draduct Expressed In Other Terms			

F. VOC Content in Product Expressed In Other Terms:

1.) a.) 3.95 lb VOC / gal Product

1.)́ b.)́ 474.14 grams VOC / litre Product

2.) a.) 2.) b.) 3.95 lb VOC / gal Product less water & exempt solvent

474.14 grams VOC / litre Product less water & exempt solvent 10.08 lb VOC / gal total non-volatiles

3.)

G. Volatiles: (all VOCs, HAPs, water & ammonia)

Ingredient	GAS Number	Weight Percent	Density (lb/gal)
Hazardous Air Pollutants VOCS (H	IAPs)	0.64	
Toluene	108-88-3	0.64	7.22
Other VOCs (Non-HAPs)			
n-Propyl Alcohol	71-23-8	17.96	6.71
Isopropyl Alcohol	67-63-0	8.52	6.55
Light Aliphatic Solvent Naphtha	64742-89-8	8.24	6.17
Light Aliphatic Solvent Naphtha	64742-89-8	3.96	6.17
Ethanol	64-17-5	2.38	6.62
Water	7732-18-5	0	
Ammonia.	7664-41-7	0	

NOTE: The term Volatile Organic Compounds (VOC) refers only to volatile organic materials as defined by the US EPA and does not include water, ammonia, acetone or other exempt solvents. Unless otherwise stated, the VOC values reported above are based on materials of construction.

See Section 13 of the MSUS for identification of the HAPs ingredients.

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