



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

FastINK (TM) Inkjet Fabric Ink - Black

Revision date: 06/14/2004

Supplier U.S. Graphic Arts, Inc., dba U.S. Screen Printing Institute
1901 E. 5th Street
Tempe, Arizona 85281 United States of America

For non-emergency information contact: 480-929-0640

Emergency telephone number

Spill Emergency 480-929-0640
Health Emergency 480-929-0640
Chemtrec 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Acrylic polymer(s)	Not Hazardous	1.0 - 10.0%
Individual residual monomers	Not Required	<100.0PPM
Aqua ammonia	1336-21-6	<=0.2%
Modified Carbon black	Undisclosed	1.0 - 5.0%
Anionic surfactant	Trade Secret	1.0 - 5.0%
Diethylene glycol	111-46-6	10.0 - 15.0%
Pyrrolidone	616-45-5	5.0 - 10.0%
Water	7732-18-5	65.0 - 75.0%

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form Translucent liquid

Color

black

Hazard Summary

WARNING!

INHALATION OF VAPOR OR MIST CAN CAUSE HEADACHE, NAUSEA AND IRRITATION OF THE NOSE, THROAT AND LUNGS. CAUSES SEVERE EYE IRRITATION. PROLONGED OR REPEATED OVEREXPOSURE TO DIETHYLENE GLYCOL CAN CAUSE KIDNEY AND LIVER EFFECTS. PROLONGED OR REPEATED OVEREXPOSURE TO CARBON BLACK CAN CAUSE LUNG EFFECTS.

Potential Health Effects

Primary Routes of Entry: Inhalation
Eye contact
Skin contact

Eyes: Direct contact with material can cause the following:
severe irritation
tearing
reddening

Skin: Material can cause the following:
Skin irritation
Prolonged or repeated overexposure to the solvent(s) in this material can cause the following:
defatting and drying of the skin which can lead to irritation and dermatitis

Ingestion: Material is possibly harmful if swallowed.
Material can cause the following:
abdominal pain
vomiting
nausea
dizziness
diarrhea
gastrointestinal irritation

Inhalation: Inhalation of solvent vapor or mist can cause the following:
irritation of nose, throat, and lungs
headache
nausea

Chronic Exposure: Prolonged or repeated overexposure to diethylene glycol can cause kidney and liver effects. Prolonged or repeated overexposure to carbon black can cause lung effects.

Modified Carbon black	ACGIH	Not classifiable as a human carcinogen.
Modified Carbon black	IARC	Possible carcinogen.
Modified Carbon black	US CA CRT	Carcinogenic.
Modified Carbon black	NIOSH	Potentially carcinogenic

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Give artificial respiration if breathing has stopped. If breathing is difficult, give oxygen. Consult a physician.

Skin contact: Remove contaminated clothing. Wash affected skin areas thoroughly with soap and water. Consult a physician if irritation persists. Wash contaminated clothing before reuse. Do not take clothing home to be laundered.

Eye contact: IMMEDIATELY flush eyes with a large amount of water for at least 15 minutes. Get prompt medical attention.

Ingestion: Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Consult a

physician. If vomiting occurs spontaneously, keep airway clear.

5. FIRE-FIGHTING MEASURES

Flash point	Noncombustible
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Thermal decomposition	Combustion generates toxic fumes of the following:, nitrogen oxides (NO _x), Carbon oxides, sulfur oxides

Suitable extinguishing media: Use the following extinguishing media when fighting fires involving this material:
polar solvent (alcohol) foam
water spray
dry chemical
carbon dioxide (CO₂)

Specific hazards during fire fighting: Material can splatter above 100C/212F. Dried product can burn.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and protective suit.

Further information: Remain upwind.

Avoid breathing smoke.

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.

If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

Methods for cleaning up

Keep spectators away.

Floor may be slippery; use care to avoid falling.

Avoid breathing vapor.

Ventilate the area.

Contain spills immediately with inert materials (e.g., sand, earth).

Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

Handling

Keep from freezing - product stability may be affected. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Store in a cool, dry, well ventilated place. Keep container closed when not in use.

Storage

Storage temperature: 40 - 60 °C (104 - 140 °F)

Other data: NOTE: Formaldehyde will be generated under acidic conditions. Maintain adequate ventilation under these conditions to prevent exposure to formaldehyde above the recommended ceiling of 0.3 ppm.

Further information:

Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required.

Improper disposal or re-use of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations.

Dispose empty container in a sanitary landfill or by incineration as allowed by state and local authorities.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Aqua ammonia	U.S. Screen	TWA	25 ppm
	U.S. Screen	STEL	35 ppm
	ACGIH	TWA	17 mg/m3 25 ppm
	ACGIH	STEL	24 mg/m3 35 ppm
	OSHA_TRANS	PEL	35 mg/m3 50 ppm

Component	Regulation	Type of listing	Value
Modified Carbon black	U.S. Screen	TWA	3.0 mg/m3
	U.S. Screen	STEL	6 mg/m3
	ACGIH	TWA	3.5 mg/m3
	OSHA_TRANS	PEL	3.5 mg/m3

Component	Regulation	Type of listing	Value
Diethylene glycol	U.S. Screen	TWA	84 mg/m3

Eye protection: Use chemical splash goggles (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Neoprene gloves. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

Skin and body protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 1000 ppm organic vapor: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full-facepiece, airline respirator in the pressure demand mode. Above 1000 ppm organic vapor or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and R95 or P95 filters.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Engineering measures: Use local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Translucent liquid
Colour	black

pH	7.5 - 9.5
Boiling point/range	100 °C (212 °F) Water
Melting point/range	0 °C (32 °F) Water
Flash point	Noncombustible
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapour pressure	17.0 mmHg at 20 °C (68 °F) Water
Relative vapour density	<1.0 water
Water solubility	Dilutable
Relative density	0.95 - 1.05
Viscosity, dynamic	2.5 - 4.0 mPa.s
Evaporation rate	<1 Water
Percent volatility	85 - 94 %

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Hazardous reactions	This material is considered stable. However, avoid temperatures above 177°C/350°F, the onset of polymer decomposition. Thermal decomposition is dependent on time and temperature.
Materials to avoid	Avoid contact with acids, alkalies and strong oxidizing agents.
Hazardous decomposition products polymerization	Thermal decomposition may yield acrylic monomers., Product will not undergo polymerization.

11. TOXICOLOGICAL INFORMATION

No toxicity data are available for this material.

The information shown in SECTION 3, Hazards Identification, is based on toxicity profiles of similar materials or on the solvents present in this material.

Component: **Aqua ammonia**

Acute oral toxicity LD50rat 350 mg/kg
Component: **Aqua ammonia**

Acute oral toxicity LDLo human 43 mg/kg
Component: **2,2'-oxybisethanol diethylene glycol**

Acute oral toxicity LD50rat 10,000 mg/kg
Component: **Modified Carbon black**

Acute inhalation toxicity LC50rat 1 h 27,000 mg/l
Component: **Modified Carbon black**

Acute dermal toxicity LD50rabbit > 5,000 mg/kg
Component: **2,2'-oxybisethanol diethylene glycol**

Acute dermal toxicity LD50rabbit 10,000 mg/kg

12. ECOLOGICAL INFORMATION

There is no data available for this product.

2,2'-oxybisethanol diethylene glycol

Ecotoxicity effects

Toxicity to fish	LC50 >100 mg/l
Toxicity to aquatic invertebrates	EC50Daphnia magna 100 mg/l

13. DISPOSAL CONSIDERATIONS

Disposal

Disposal:

Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations.

Waste Classification:When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40 CFR 261.33. The toxicity characteristic (TC), however, has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

IMO/IMDG

Not regulated (Not dangerous for transport)

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations.

15. REGULATORY INFORMATION

Workplace Classification

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

This product is a 'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III:Section 311/312 Categorizations (40CFR370):Chronic Health Hazard

Acute Health Hazard

SARA TITLE III:Section 313 Information (40CFR372)

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

CERCLAInformation(40CFR302.4)

Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

US. Toxic Substances Control Act (TSCA) All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California (Proposition 65)

This product contains trace levels of a component or components known to the state of California to cause cancer:

Components: Formaldehyde 50-00-0
Ethyl acrylate 140-88-5

California (Proposition 65)

This product contains a component or components known to the state of California to cause cancer:

Components: Carbon black 1333-86-4

16. OTHER INFORMATION

Hazard Rating

	Health	Fire	Reactivity
HMIS	2*	1	0

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAC	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
	Bar denotes a revision from prior MSDS.

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.

Version:1.0

Print Date: 06/14/2004

Layout 1004918