

# MATERIAL SAFETY DATA SHEET

## **1.0 PRODUCT IDENTIFICATION**

TRADE NAME (AS LABELED): 4500, 4550 BLACK INK  
PART NUMBER: 4500BK, 4550BK  
SYNONYM/CHEMICAL CLASS: Solution of Dyes  
PRODUCT USE: Ink Jet Printing Ink  
MANUFACTURER'S NAME: Digital Design Inc.  
ADDRESS: 67 Sand Park Road  
Cedar Grove NJ 07009  
EMERGENCY PHONE: 1-800-255-3924 (CHEMTEL)  
BUSINESS PHONE: 1-973-857-9500  
DATE OF PREPARATION: 09/18/09

## **2.0 COMPOSITION, INFORMATION ON INGREDIENTS**

CHEMICAL NAME	CAS #	EINECS	% w/w	EU classification
<b>Amine</b>	102-71-6	203-049-8	1 - 3	Xi, R22,R36,R43
<b>Biocide</b>	55965-84-9	Not provided	< 0.06	Xi, R43
<b>Black Dye</b>	Trade Secret	Not provided	1 - 5	Not Classified

## **3.0 HAZARD IDENTIFICATION**

### **3.1 Routes of Exposure**

**Inhalation:** The constituents of this material are of low volatility, low order of acute toxicity, and will not normally cause inhalation problems. Inhalation of a mist of this material may cause respiratory irritation, which shall be relieved upon termination of the exposure.

**Contact with Skin or Eyes:** Due to the colorant components, skin contact will cause discoloration of the skin and is not easily removed by washing. Irritation may occur. Contact with the eyes will cause burning and may impair vision by staining the eye.

**Skin Absorption:** The major components of this ink do not absorb through the skin. While trace components have been reported to absorb, their concentration in this ink is sufficiently low so that this is not considered a problem.

**Ingestion:** Ingestion of this material will stain the mouth and esophagus. Ingestion of large amounts will cause gastrointestinal distress. Ingestion may cause nausea, vomiting, diarrhea and will cause irritation of the upper gastrointestinal tract, causing difficulty in swallowing.

### **3.2 Acute Health Hazards:**

Any potential hazards are presumed to be due to exposure to the following components:

**Amine:** May be harmful if swallowed. Irritating to eyes. May cause sensitization by skin contact.

**Biocide:** May cause sensitization by skin contact.

**Black Dye:** May irritate skin and respiratory tract. May cause nausea, vomiting, and diarrhea.

### 3.3 Chronic Health Hazards:

None Known

### **4.0 First Aid Measures**

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Inhalation: Remove victim to fresh air, and get medical aid immediately. If breathing has ceased, apply artificial respiration with oxygen and a suitable mechanical device such as a bag and a mask. DO NOT use mouth-to-mouth resuscitation. If symptoms persist, consult a physician.

Eyes: Flush eyes with plenty of water for at least 15 minutes. Get medical aid as a precautionary measure. Do NOT allow victim to rub or keep eyes closed.

Skin: If spilled on skin, immediately wash it off with running water. Remove contaminated clothing, taking care not to contaminate eyes. If irritation persists, consult a physician.

Ingestion: If chemical is swallowed, seek medical attention. If professional advice is not available and victim is conscious and alert, give two to four cups of milk or water. Do not induce vomiting.

Victims of chemical exposure should be taken for medical attention if symptoms of exposure develop. Take copy of label and MSDS to physician.

### **5.0 FIRE-FIGHTING MEASURES**

Flashpoint (method): > 100 deg C (seta flash, closed-up)

Auto-Ignition temperature: > 200 deg C

Flammable Limits (in air by volume %): Lower: Not Applicable

Upper: Not Applicable

Fire Extinguisher materials and methods: Fire fighting should concentrate on surrounding materials. This material will not contribute to the intensity of the fire or the toxicity of the smoke.

Water Spray: OK

Carbon Dioxide: OK

Foam: OK

Dry Chemical: OK

Halon: OK

Unsuitable Extinguishing media: None Known

Unusual Fire and Explosion hazards: None Known

Special fire fighting procedures: Incipient fire responders should wear eye protection. Structural fire fighters must wear self-contained breathing apparatus and full protective equipment. This ink may discolor run-off water.

Hazardous Combustion Products: Refer to Section 10.

### **6.0 ACCIDENTAL RELEASE MEASURES**

SPILL AND LEAK RESPONSE: For incidental spills, use professional equipment such as rubber gloves and rubber apron, splash goggles or safety glasses. Uncontrolled or large releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of any large spill, clear the affected area, protect people, and respond with trained personnel. NIOSH approved Respirator should be used. to protect against potentially irritating contaminated dust.

Absorb spilled liquid with polypads, sand, or vermiculite. Avoid splashing or spraying liquid. Decontaminate area thoroughly by rinsing with water. It may not be possible to decolorize stains. Place in closed container for proper disposal. Dispose of in accordance with Federal, State, and local waste disposal regulations.

ENVIRONMENTAL PRECAUTIONS: Do not discharge into drains (Refer to Section 13 for Disposal Considerations)

## **7.0 HANDLING AND STORAGE**

### Handling and Storage precautions:

Keep out of reach of children. Avoid getting chemicals ON YOU or IN YOU. Wash hands after handling chemicals. Do not eat or drink while handling chemicals. Avoid breathing mists of this ink.

### Storage and Handling practices:

Store product in properly labeled, closed, containers in a temperature of 15 deg C – 30 deg C. Avoid all possible sources of ignition (spark or flame)

### Protective Practices during maintenance of contaminated equipment:

Follow practices indicated in Section 6 (Accident Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment using soapy water before maintenance begins. Collect all rinsates and dispose of according to applicable Federal, State, or local procedures.

Shelf Life: 1 year

Special Sensitivity: None

## **8.0 EXPOSURE CONTROLS – PERSONAL PROTECTION**

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Use a mechanical fan or vent area to outside.

RESPIRATORY PROTECTION: None required under routine conditions of use and proper ventilation. It is advisable to use respiratory protection (NIOSH-Approved) during prolonged exposure.

EYE PROTECTION: Splash goggles or safety glasses.

HAND PROTECTION: Use lightweight rubber or plastic gloves. Check gloves for leaks. Wash hands after removing gloves.

BODY PROTECTION: Use body protection appropriate for task. Cover-alls, rubber aprons, or chemical protective clothing to minimize exposure. Clothing made from natural rubber are generally acceptable, depending upon the task.

CHEMICAL NAME	ACGIH		OSHA		Other
	TLV	STEL	PEL	STEL	
Amine	5 mg/m <sup>3</sup>	Not Listed	Not Listed	Not Listed	Not Listed
Biocide	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Black Dye	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

## **9.0 Physical and Chemical Properties**

pH: 9-11  
 Boiling point: >90 C  
 Flash point: >100 C  
 % Volatile > 90%  
 Flammability: US NFPA/HMIS Flammability rating = 0  
 Explosive properties: Not applicable  
 Oxidizing properties: Not applicable  
 Vapor Pressure: Not applicable  
 Relative density: Specific Gravity = 1.0-1.1  
 Solubility: Soluble in water  
 Partition coefficient: Not determined  
 Viscosity: <15 cps  
 Vapor density: >1 (air = 1.0)  
 Evaporation rate: Not applicable  
 Other: Not applicable

## **10.0 STABILITY AND REACTIVITY**

Stability: Stable under normal storage conditions  
 Incompatibilities: Strong oxidizers  
 Thermal decomposition  
 Products: Byproducts of carbon monoxide and carbon dioxide  
 Hazardous Polymerization: None

## **11.0 TOXICOLOGICAL INFORMATION**

Refer to Section 3 for potential health effects and Section 4 for first aid measures.

Ink: Dermal Exposure: Discolors skin and may cause local irritation.  
 Acute Dermal LD50 - None  
 Ingestion Exposure: May cause gastrointestinal distress.  
 Inhalation Exposure: Not likely to occur, but may cause irritation.  
 Acute Inhalation LC50 - None

This ink formulation has not been tested.

Components:

CHEMICAL NAME	Dermal	Acute Oral Toxicity
<b>Amine</b>	LD60 = 16 ml/kg	LD50 = 4920 mg/kg in rat LD50 = 5300 mg/kg in guinea pig LD50 = 5160 mg/kg in rabbit LD50 = 740 mg/kg (mouse)
<b>Biocide</b> (Trade Secret)	Acute Dermal LD50, rabbit: >5000 mg/kg Skin Irritation (rabbit ): corrosive Eye Irritation (rabbit) Corrosive Acute 4 Hr Inhalation (rat): 0.33 mg/L ai	Acute oral LD50: rat: 3310 mg/kg (female) >5000 mg/kg (male)
<b>Black Dye</b>	No Data	No Data

SUSPECTED CANCER AGENT: The components of this product are not listed by the NTP, IARC, or are regulated by OSHA.

## **12.0 Ecological Information**

Ink:

LC50 – not tested

Components:

CHEMICAL NAME	LC50 (96 Hr., fathead minnow)
<b>Amine</b>	6645 mg/L
<b>Biocide</b>	At concentration levels in the mixture, the biocide is not classified as a marine pollutant.
<b>Black Dye</b>	LC50: 111 mg/L

## **13.0 DISPOSAL CONSIDERATIONS**

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This chemical, if unaltered by handling, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Discharge into a sanitary sewer or storm drain may violate local ordinance for color or solids.

EPA WASTE NUMBER: Not Applicable. This material is not a RCRA Hazardous Waste for disposal purposes.

## **14.0 TRANSPORTATION INFORMATION**

Not a regulated article under United States DOT, IATA, ADR, or RID.

EPA Waste Number: Not applicable  
UN Number: Not applicable  
Class: Not applicable  
Proper Shipping Name: Not applicable

Packing Group: Not applicable  
Marine Pollutant: Not listed  
Special Precautions: None noted

## **15.0 REGULATORY INFORMATION**

### **USA:**

TSCA INVENTORY STATUS: The chemicals in this compound ARE listed on the TSCA Inventory.

SARA Title III – Section 311/312  
Biocide: Acute and Chronic Health Hazard.

Section 313, Emissions Reporting:  
Biocide: Above de minimis : magnesium nitrate (10377-60-3).

MARINE POLLUTANT: This product contains no chemicals which have been designated by the Department of Transportation to be Marine Pollutants in 49 CFR 172.101, Appendix B.

CALIFORNIA PROPOSITION 65: Proposition 65 requires manufacturers or distributors of consumer products into the State of California to provide a warning statement if the product contains ingredients for which the state has found to cause cancer, birth defects, or other reproductive harm. This ink contains no such ingredient.

CERCLA REPORTABLE QUANTITIES (RO): Not Applicable.

**EU Notification:** All ingredients are listed on EINECS or are exempt.

### **SYMBOLS**

Xi: Irritant.

### **Risk Phrases**

R22: Harmful if swallowed.  
R36: Irritating to eyes.  
R43: may cause sensitization by skin contact

### **Safety Phrases**

S2: Keep out of the reach of children.  
S13: Keep away from food, drink, and animal feeding stuffs.  
S24/25: Avoid contact with skin and eyes.  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37/39: Wear suitable gloves and eye/face protection  
S36/37/39: Wear suitable protective clothing, gloves, and eye/face protection.  
S41: In case of fire and / or explosion do not breathe fumes.

## **16.0 OTHER INFORMATION**

PREPARED BY: Digital Design Inc.  
67 Sand Park Road  
Cedar Grove NJ 07009

OTHER INFORMATION: This MSDS was prepared in compliance with EU Directive 91/155/EEC as amended by 2001/58/EC and USA OSHA Hazard Communications regulations (29CFR1910:1200).

The data provided is the most current know to Digital Design Inc. at the indicated time and is believed to be accurate and reliable. However no warranty, guarantee or representation is made as to its accuracy, reliability or completeness. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability to assure proper use, disposal, and safety of these materials.