

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Stratitec Black Inkjet Ink

Manufacturer Name: GSC Imaging

Address: 9242 Commerce Highway, Pennsauken, NJ 08110

Phone: 856-317-9301

Emergency Phone Number: Chemtrec 800-424-9300

Product Use: Refilling Inkjet Cartridges

SECTION 2: PRODUCT COMPONENTS

INGREDIENTS	CAS#.	WT. %
Diethylene Glycol	111-46-6	1-5
2-Pyrrolidone	616-45-5	1-10
Glycerin	56-81-5	5-10
n-Propanol	71-23-8	1-5
Surfactant	Proprietary	1-5

Refer to Section 8 for occupational exposure limits.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This product is a dark black liquid with a mild odor.

WARNING! Eye and skin irritant. May be absorbed through the skin to cause effects similar to inhalation. Inhalation of vapors may cause irritation, headache, nausea, central nervous system depression, visual disturbances, metabolic acidosis, and damage to the liver and kidneys. Harmful if swallowed. Aspiration during swallowing or vomiting may cause lung damage.

See Section 11 for detailed health effects information.

SECTION 4: EMERGENCY and FIRST AID PROCEDURES

INGESTION: Call a poison control center or doctor immediately for treatment advice. If conscious, give one 8 ounce glass of water to dilute. DO NOT induce vomiting unless directed by medical personnel. Do not give anything by mouth to or induce vomiting in a person who is unconscious or convulsing.

SKIN CONTACT: Remove contaminated clothing. Wash contact area thoroughly with soap and water until no traces of the chemical remains. Get medical attention if irritation develops or persists. Launder contaminated clothing before reuse. Discard contaminated clothing such as shoes that cannot be decontaminated.

EYE CONTACT: Flush eyes with water for 15 minutes while lifting the upper and lower lids. Get medical attention.

INHALATION: Remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get medical attention.

SECTION 5: FIRE and EXPLOSION HAZARD DATA

FLASH POINT: None

AUTOIGNITION TEMPERATURE: Not available

FLAMMABLE LIMITS: (vol % in air) LEL: 1.6% (diethylene glycol)

UEL: 10.8% (diethylene glycol)

EXTINGUISHING MEDIA: Use alcohol foam, carbon dioxide and dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus. Cool fire exposed containers and structures with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, nitrogen oxides and acrolein.

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate protective clothing as described in Section 8. Dike spill and absorb with an inert material. Collect into closable containers for proper disposal. Report spill as required by local and federal regulations.

SECTION 7: HANDLING and STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Protect containers from physical damage. Store in a cool, dry area away from oxidizers and other incompatible materials.

Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Use with adequate ventilation. Remove and launder contaminated clothing before re-use. Wash thoroughly after handling and before eating, drinking, smoking or using toilet facilities.

OTHER PRECAUTIONS: Empty containers retain product residues and are hazardous. Follow all MSDS precautions in handling empty containers.

SECTION 8: EXPOSURE CONTROLS and PERSONAL PROTECTION

INGREDIENTS	CAS#.	EXPOSURE LIMITS
Diethylene Glycol	111-46-6	10 mg/m ³ TWA AIHA WEEL
2-Pyrrolidone	616-45-5	None Established
Glycerin	56-81-5	5 mg/m ³ TWA OSHA PEL (respirable fraction) 10 mg/m ³ TWA ACGIH TLV
n-Propanol	71-23-8	200 ppm TWA OSHA PEL 200 ppm TWA ACGIH TLV 400 ppm STEL ACGIH
Surfactant	Proprietary	None Established

VENTILATION: Provide adequate general or local exhaust ventilation to maintain vapor concentrations below the exposure limits.

RESPIRATORY PROTECTION: Use NIOSH approved respirator with organic vapor cartridges or supplied air respirator if needed. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.

EYE PROTECTION: Chemical safety goggles if splashing is possible.

PROTECTIVE CLOTHING: Butyl rubber or other impervious gloves are recommended if contact is likely. Impervious apron, boots and other clothing are recommended if needed to prevent contact or if splashing is possible.

OTHER PROTECTIVE EQUIPMENT: For operations where contact can occur, an eye wash facility should be immediately available.

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

BOILING POINT (@760 mmHg): 215°F / 101°C

SPECIFIC GRAVITY (H₂O=1): 1.02-1.04

VAPOR PRESSURE: 17.5 mmHg

VAPOR DENSITY (Air=1): Heavier than air

SOLUBILITY IN WATER: Complete

FREEZING POINT: Not available

COEFFICIENT of WATER/OIL: Not available

EVAPORATION RATE: < Butyl Acetate

pH: 6.0-8.0

APPEARANCE AND ODOR: Dark red liquid with a mild odor.

SECTION 10: STABILITY and REACTIVITY

STABILITY: Stable.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY: Strong oxidizing agents, strong acids and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield carbon monoxide, carbon dioxide, nitrogen oxides and acrolein.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: May cause irritation with redness and pain.

SKIN CONTACT: Contact may cause skin irritation with redness, swelling and cracking. Widespread contact may cause absorption with symptoms similar to inhalation.

INHALATION: Vapors or mists may cause respiratory irritation with headache, dizziness, nausea, drowsiness, incoordination, euphoria, visual disturbances, fatigue, respiratory arrest and unconsciousness. May cause damage to the kidneys and liver.

INGESTION: Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea, increased respiration, increased heart rate decreased urine output, severe metabolic acidosis and damage to the kidneys and liver. Aspiration into the lungs during swallowing or vomiting may cause lung damage.

CHRONIC EFFECTS of OVEREXPOSURE: Prolonged or repeated exposure may cause dermatitis. Diethylene glycol has been found to be positive in the Ames Assay for mutagenicity. 2-pyrrolidone was found to cause birth defects in studies with laboratory animals.

CARCINOGENICITY: None of the components of this products are listed as a carcinogen by NTP, IARC or OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with chronic skin, respiratory, kidney and liver disorders may be at increased risk from exposure to this material.

TOXICOLOGY DATA: Toxicity values for this chemical are:

Diethylene Glycol:	Oral rat LD ₅₀ : 12,565 mg/kg
	Skin rabbit LD ₅₀ : 11,890 mg/kg
2-Pyrrolidone:	Oral rat LD ₅₀ : 328 mg/kg
Glycerin:	Oral rat LD ₅₀ : 12,600 mg/kg
	Skin rabbit LD ₅₀ : >10 gm/kg
	Inhalation rat LC ₅₀ : >570 mg/m ³ /1 hour
n-Propanol:	Oral rat LD ₅₀ : 1,870 mg/kg
	Skin rabbit LD ₅₀ : 11,890 mg/kg
Surfactant:	No data available

SECTION 12: ECOLOGICAL INFORMATION

Diethylene Glycol:	No data available
2-Pyrrolidone:	EC ₅₀ /48 hour daphnia magna >500 mg/l
	LC ₅₀ /48 hour golden orfe >500 mg/l
Glycerin:	No data available
n-Propanol:	LC ₅₀ /96 hour fathead minnow >1000 ul/l
	LC ₅₀ /96 hour daphnia magna >1000 ul/l
Surfactant:	LC ₅₀ /24 hour daphnia magna 3.2-5.2 mg/l

LC₅₀/96 hour fathead minnow 3.2 mg/l

SECTION 13: DISPOSAL INFORMATION

WASTE DISPOSAL METHOD: Dispose of in accordance with all local, state and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOMESTIC TRANSPORTATION

DOT SHIPPING NAME: Not Regulated

DOT HAZARD CLASSIFICATION: Not Regulated

DOT LABELS REQUIRED (49CFR172.101): Not Applicable

UN NUMBER: None

INTERNATIONAL TRANSPORTATION

IMDG SHIPPING NAME: Not Regulated

IMDG CLASS: Not Regulated

UN NUMBER: Not Applicable

IMDG LABEL: None

SECTION 15: REGULATORY INFORMATION

OSHA HAZARD CLASSIFICATION: Irritant, target organ effects

EPA SARA 311 HAZARD CLASSIFICATION: Acute health, chronic health

SARA TITLE 111 SECTION 313 INFORMATION: This product contains the following chemicals that are regulated under SARA 313: None

CERCLA HAZARDOUS SUBSTANCE (40CFR 116): Not applicable

REPORTABLE QUANTITY: Not applicable

STATE R-T-K COMPOSITION INFORMATION

COMPONENT	CAS #	WT%	PA	MA
Diethylene Glycol	111-46-6	1-5	Y	N
2-Pyrrolidone	616-45-5	1-10	Y	Y
Glycerin	56-81-5	5-10	Y	Y
n-Propanol	71-23-8	1-5	Y	Y

CALIFORNIA PROPOSITION 65 INFORMATION: This product contains no California Proposition 65 regulated chemicals.

WHMIS CLASSIFICATION: Class D - Division 2 - Subdivision B (Toxic material causing other chronic effects)

SECTION 16: OTHER INFORMATION

NFPA Rating: Health = 1 Fire = 0 Reactivity = 0

HMIS Rating: Health = 1 Fire = 0 Reactivity = 1