



MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/ UNDERTAKING

Product Name : HP80 Compatible Black Water-Based Ink
Product Number : H80P-350BK
Material Uses : Inkjet Ink for Drop-On-Demand Digital Printing Process
Manufacturer : STS Refill Technology
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Boca Raton, FL 33487
United States of America
Phone +1-561-999-9918
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2. HAZARD IDENTIFICATION

This product is a black liquid with a mild odor.

Hazards Overview : May cause mild eye and skin irritation. Inhalation of vapors or mists may cause irritation, headache, dizziness and other central nervous system effects. Swallowing may cause kidney damage. May be absorbed through the skin to cause effects similar to inhalation. Aspiration during swallowing or vomiting may cause lung damage. See Section 11 for detailed health effects information.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name	CAS#	% By Weight
2-Pyrrolidone	616-45-5	1 – 5
Diethylene Glycol	111-46-6	1 – 10
Glycerin	56-81-5	10 – 20

Refer to Section 8 for Occupational Exposure Limits.

4. FIRST AID MEASURES

Eye : Flush eyes with water while lifting the upper and lower lids. Get medical attention if irritation develops or persists.

Skin : Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation develops or persists. Launder contaminated clothing before reuse.

Inhalation : Remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. Get medical attention.

Ingestion : Call 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.

5. FIRE-FIGHTING MEASURES

Extinguishing Media : Use alcohol foam, carbon dioxide or dry chemical.
Special Fire Fighting Procedures : Wear approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers and structures with water.
Unusual Fire Hazards : None known.
Hazardous Decomposition Products : Carbon monoxide, carbon dioxide, tetrahydrofuran and oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Spill : Wear appropriate personal protective equipment. Dike spill and absorb with an inert material. Collect into closable containers for proper disposal. Report spill as required by local and federal regulations.

7. HANDLING AND STORAGE

Handling : Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. 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.
 Empty containers retain product residues and are hazardous. Follow all MSDS precautions in handling empty containers.
Storage : Protect containers from physical damage. Store in a cool, dry area away from oxidizers and other incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	CAS#	Exposure Limits
2-Pyrrolidone	616-45-5	None Established
Diethylene Glycol	111-46-6	10 mg/m ³ TWA AIHA WEEL
Glycerin	56-81-5	5 mg/m ³ TWA OSHA PEL (respirable fraction) 10 mg/m ³ TWA ACGIH TLV

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 : Wear chemical safety glasses and goggles if splashing is possible
Protective Clothing : 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	: Liquid
Color	: Black
Odor	: Mild Odor
Boiling Point	: 212 °F (at 760 mmHg)
Melting Point	: Not determined
Specific Gravity	: 1.03
Vapor Density	: Heavier than air
Vapor Pressure	: 17.5 mmHg
Evaporation Rate (Butyl Acetate = 1)	: <Butyl Acetate
Solubility (Water)	: Complete
pH	: 6.5 – 8.5
Flash Point	: None
Flammable Limits	: Not determined

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, and nitrogen oxides.
Hazardous Polymerization	: Will not occur

11. TOXICOLOGICAL INFORMATION

Eye	: May cause irritation with redness and pain.
Skin	: May cause skin irritation with redness, swelling and cracking. Widespread contact may cause adsorption with symptoms similar to inhalation.
Inhalation	: Vapors or mists may cause respiratory irritation with headache, dizziness, drowsiness, narcosis, constriction of the pupils, incoordination, visual disturbances, euphoria, fatigue, and unconsciousness.
Ingestion	: Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea, narcosis, construction of pupils, increased blood sugar levels, loss of reflexes, severe metabolic acidosis and damage to the kidneys and liver.
Chronic Hazards	: Prolonged exposure may cause dermatitis. 2-Pyrrolidone was found to cause birth defects in studies with laboratory animals at doses that were toxic to the mother.
Carcinogenicity Conditions Aggravated by Exposure	: None of the components are listed as carcinogenic by NTP, IARC, or OSHA : Persons with chronic skin, and respiratory disorders may be at increased risk from exposure to this material.
Acute Toxicity Values	: 2-Pyrrolidone – Oral Rat LD ₅₀ : 6,500 mg/kg Glycerin – Oral Rat LD ₅₀ 12,600 mg/kg; Skin Rabbit LD ₅₀ >10,000 mg/kg; Inhalation Rat LC ₅₀ >570 mg/m ³ /1 hr Diethylene Glycol – Oral Rat LD ₅₀ : 12,565 mg/kg; Skin Rabbit LD ₅₀ : 11,890 mg/kg

12. ECOLOGICAL INFORMATION

2-Pyrrolidone : EC50/48 hour daphnia magna >500 mg/l; LC50/48 hr golden orfe >500 mg/l, readily biodegradable
Glycerin : No data available
Diethylene Glycol : No data available

13. DISPOSAL CONSIDERATIONS

Waste Disposal : Dispose of in accordance with all local, regional and national regulations.

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Name : Not regulated
DOT Hazard Class : Not regulated
UN Number : None
DOT Labels Required (49CFR172.101) : None
IMDG Shipping Name : Not regulated
IMGD Class : Not regulated
UN Number : N/A
IMGD Label : None

15. REGULATORY INFORMATION

OSHA Hazard Classification : Irritant, Target organ effects
EPA SARA 311 Hazard Classification : Acute health, cronic 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) : This product is not subject to CERCLA reporting requirements, however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
Reportable Quantity : Not applicable

State R-T-K Composition information

COMPONENT	CAS#	WT%	PA	MA
Diethylene Glycol	111-46-6	1 – 10	Y	N
Glycerin	56-81-5	10 – 20	Y	Y

California Proposition 65 Information : This product contains no California Proposition 65 regulated chemicals

WHMIS Classification : Class D - Division 2 - Subdivision A (Very toxic material causing other toxic effects)

16. OTHER INFORMATION

NFPA Rating : Health = 1 Fire = 0 Reactivity = 0
HMIS Rating : Health = 1 Fire = 0 Reactivity = 0
Date of Issue : January 21, 2014
Version : 1.00 English

Notice to the Reader:

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained. 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 the only hazards that exist. While the information set forth herein is believed to be accurate as of the date hereof, the Company makes no warranty or guarantee, express or implied, and disclaims all liability arising out of the use of this information.