

**MATERIAL SAFETY DATA SHEET: LIQUID DYNE PENS AND FLUIDS**

**ITEM #'s N001-002, N001-011, N001-012, N001-015**

Formula: HCONH<sub>2</sub> + C<sub>2</sub>H<sub>5</sub>OC<sub>2</sub>H<sub>4</sub>OH      Chemical Family: Amide/Glycol Ethers

Date Prepared 12/16/2008

**1: COMPANY CONTACT INFORMATION:  
DISTRIBUTOR:**

UV PROCESS SUPPLY, INC  
1229 W. CORTLAND ST.  
CHICAGO, IL 60614-4805  
TELEPHONE: (773)248-0099

EMERGENCY PHONE NUMBER:                      1-800-424-9300

**2: CHEMICAL COMPOSITION AND DATA ON COMPONENTS:**

<u>Consistent</u>	<u>CAS No.</u>	<u>TLV</u>	<u>OSHA PEL</u>
Formamide ( F )	72-12-7	20 ppm	
Ethyl Cellosolve ( C )	110-08.5	200 ppm	29CFR 1910.1000
Victoria Blue Dye	2185-86-6	n/a	

\*ethyl Cellosolve is a registered trademark of the Union Carbide Corporation for the product 2-thoxyethanol (ethylene glycol monoethyl ether).

**Percent volume by dyne level:**

<u>Dyne level</u>	<u>% of Cellosolve</u>	<u>% of Formamide</u>	<u>% of Water</u>
60	0	65.0	35.0
58	0	81.2	18.8
56	1.0	99.0	0
54	3.5	96.5	0
52	6.3	93.7	0
50	9.3	90.7	0
48	13.0	87.0	0
46	17.2	82.8	0
44	22.0	78.0	0
42	28.5	71.5	0
40	36.5	63.5	0
38	46.0	54.0	0
36	57.5	42.5	0
34	73.5	26.5	0
32	89.5	10.5	0
30	100.0	0	0

**3 grams of Victoria blue dye at per liter or 0.30% w/v**

**3: HAZARDS IDENTIFACTION:** (listed under 290 CFR 1910.1000)

These hazards *are* associated with the fluids contained in the liquid:

Reproductive Toxin  
Eye Hazard      Sensitizer  
Combustible LiquidSkin Hazard  
Kidney ToxinToxic Agent  
Skin IrritantTLV - 20 to 200 ppm  
PEL - 5 ppm (8 hr whit avg)

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## 4: PHYSICAL AND CHEMICAL PROPERTIES:

Boiling Point is 135°C to 210°C (measured at 760 mm Hg)  
Specific Gravity is 0.93 to 1.13 at 20°C (H<sub>2</sub>O=1.0)  
Vapor Density is 3.1 at 20°C (air = 1)  
Percent Volatiles 100% (measured by volume)  
Freezing Point -90°C to +2°C  
Vapor Pressure 0.08 - 3.75 mm Hg at 20°C  
Solubility in Water is complete % by wt at 20°C  
Appearance and odor: Blue liquid solution with mild, non-residual odor.

## 5: FIRE FIGHTING MEASURES:

Flash Point: 108°F to 245°F Fahrenheit, per ASTM 056; tag dosed cup  
Auto ignition Temperature: N/A  
Flammability Limits in Air (by volume At 200°F Fahrenheit): 1.7% to 15.6%.  
Extinguishing Media: Use a water fog recommended; or CO<sub>2</sub> dry chemical, and universal foam media can also be used, as applied by manufacturer's recommendations,  
Unusual Fire/Explosion Hazards: Can react with oxidizing material.

## 6: TOXICOLOGICAL INFORMATION:

Inhalation: The liquids vapors are irritating to eyes, nose, and respiratory tract. They may cause headache, nausea, vomiting, weakness  
Skin Contact: May cause irritation  
Ingestion: See inhalation; can also cause breathing difficulty. Kidney damage may result from ingestion of large quantities of dyne solution.  
Skin absorption: Prolonged or widespread contact with skin may lead to absorption of harmful amounts of material resulting in symptoms as described under ingestion.  
Eye Contact: Causes irritation.  
SPECIAL WARNING: Pregnant women should not use this product; laboratory studies of animals have shown birth defects, delayed fetal development, and increase fetal mortality at air concentrations between 150 to 220 ppm.

## 7: FIRST AID MEASURES:

Eyes - Flush liberally with running water, and call a physician.  
Skin - Immediately remove contaminated clothing from skin contact.  
Thoroughly wash affected area with soap and water and rinse several times.  
Inhalation - Remove to fresh air. If breathing is difficult, provide oxygen and call physician or take to hospital.  
Ingestion - Drink large quantities of water. Induce vomiting. Call a physician or take to hospital.

## 8: STABILITY AND REACTIVITY:

The liquid will decompose partially at temperature above 180°C  
Do not combine the liquid with concentrated alkali at elevated temperatures.  
Hazardous combustion of decomposition products: CO. NH

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**9: ACCIDENTAL RELEASE MEASURES:**

Absorb spill with disposable wipers or vermiculite. Once absorbed, evaporate outdoors or incinerate in a chemical burner equipped with an after-burner and scrubber.

Dispose of waste product by high temperature incineration, as approved under appropriate federal, state, and local legislation. Do not discharge without prior written approval from health and pollution authorities.

**10: SPECIAL PRECAUTIONS:**

THIS IS NOT USED AS A CONSUMER PRODUCT AND IS FOR INDUSTRIAL USE ONLY.

Keep this product away from heat and flame. Always use with adequate ventilation. Do not allow liquid to have contact with the skin.

**WARNING TO WOMEN WHO ARE PREGNANT:** Do not use these products unless exposure is extremely low. Even small amounts, if repeatedly inhaled, ingested, or absorbed through skin, may cause fetal malformations.

**11: ECOLOGICAL INFORMATION:**

The size of the product does not suggest any ecological problems.

**12: DISPOSAL CONSIDERATIONS:**

Disposal should consider the evaporation of the materials in an open out door area. And not be place into confined containers.

**14: REGULATIONS:** None known at the time of this report.

**15: OTHER INFORMATION:**

While UV Process Supply, Inc. believes the information contained herein is factually correct, this information is not to be taken as a warranty for which UV Process Supply, Inc. assumes legal responsibility. It is provided solely for consideration, investigation and verification.