

**MATERIAL SAFETY DATA SHEET: FELT TIP DYNE MARKERS****ITEM # N001-010**Formula:  $\text{HCONH}_2 + \text{C}_2\text{H}_5\text{OC}_2\text{H}_4\text{OH}$  Chemical Family: Amide/Glycol Ethers

Date Prepared 12/16/2008

**1: DISTRIBUTOR**

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

EMERGENCY #: (800)424-9300

**2: INGREDIENTS**

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

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

Percent volume by dyne level

Level	% C	% F
35	65.0	35.0
36	57.5	42.5
38	46.0	54.0
40	36.5	63.5
42	28.5	71.5
44	22.0	78.0
48	13.0	87.0

Victoria blue dye at 3 grams per liter (0.30% w/v)

**3: HAZARD SPECIFICATIONS: (under 290 CFR 1910.1000)**

These hazards are associated with the fluids contained in these markers:

Reproductive Toxin

Eye Hazard Sensitizer

Combustible Liquid Skin Hazard

Kidney Toxin Toxic Agent

Skin Irritant TLV - 20 to 200 ppm

PEL - 5 ppm (8 hr whit avg)

**4: PHYSICAL DATA:**

Boiling Point 135°C to 210°C (at 760 mm Hg)

Specific Gravity 0.93 to 1.13 at 20°C (H<sub>2</sub>O=1.0)

Vapor Density 3.1 at 20°C (air = 1)

Percent Volatiles 100% (by volume)

Freezing Point -90°C to +2°C

Vapor Pressure 0.08 - 3.75 mm Hg at 20°C

Solubility in Water Complete % by wt at 20°C

Appearance and odor: Blue solution with mild, non- residual odor.

**5: FIRE AND EXPLOSION DATA**

Flash Point: 108°F to 245°F, per ASTM 056; tag dosed cup

Autoignition Temperature: n/a

Flammability Limits in Air (by vol. At 200°F): 1.7% to 15.6%.

Extinguishing Media: Water fog recommended; CO<sub>2</sub> dry chemical, and universal foam media, as applied by manufacturer's recommendations, can also be used

Unusual Fire/Explosion Hazards: Can react with oxidizing material.

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### 6: HEALTH HAZARDS

Inhalation: Vapors are irritating to eyes, nose, and respiratory tract. 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 least 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 marked irritation.

SPECIAL WARNING: Pregnant women should not use this product; laboratory studies of animal subjects have shown birth defects, delayed fetal development, and increase fetal mortality at air concentrations of 150 to 220 ppm.

### 7: EMERGENCY AND FIRST AID

Eyes - Flush liberally with running water. Call a physician.

Skin - Immediately remove contaminated clothing.

Thoroughly wash affected area with soap and water.

Inhalation - Remove to fresh air. If breathing is difficult, give oxygen and call physician.

Ingestion - give large quantities of water. Induce vomiting. Call a physician.

### 8: REACTIVITY

Decomposes partially at temperature above 180°C.

Do not combine with concentrated alkali at elevated temperatures.

Hazardous combustion of decomposition products: CO. NH

### 9: SPILLS OR LEAKS

Absorb spill with paper toweling 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

NOT FOR USE AS A CONSUMER PRODUCT  
FOR INDUSTRIAL USE ONLY.

Keep this product away from heat and flame. Always use with adequate ventilation.

Do not allow fluid to contact skin.

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

### 11: 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.