



# TRIANGLE BIOMEDICAL SCIENCES, INC.

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## MATERIAL SAFETY DATA SHEET

IDENTIFICATION AND EMERGENCY INFORMATION						
<b>Product Name</b>	<b>TMD™ Tissue Marking Dye Kit</b>					
<b>Product Code (Catalog Number)</b>	TMD-7 (7 Color Kit), TMD-BK (Black), TMD-Y (Yellow), TMD-BL (Blue), TMD-G (Green), TMD-R (Red), TMD-O (Orange), TMD-P (Purple)					
<b>Product Category (Chemical Name)</b>	Dyes					
<b>Product Appearance and Odor</b>	Liquid of either red, yellow, green, blue, purple, orange or black color					
<b>Emergency Notification</b>	Chem-Tel 1-800-255-3924 International 813-248-0585					
COMPONENTS AND HAZARD INFORMATION						
Component	CAS No.	%	OSHA TWA		OSHA STEL	
			ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Ammonium hydroxide (yellow, green, blue, black dye)	001336216	<3.3	NE	NE	NE	NE
N,N-dimethylethanolamine (red, green dye)	000108010	<2	NE	NE	NE	NE
2-Aminoethanol (red & purple)	000141435	<2	NA	6	NL	NL
2-Propanol (green)	000067630	<7	400	980	500	500
Pennspers orange (orange)	CASRNHXSM	<14	NE	NE	NE	NE
Diarylide yellow AAOT (yellow)	005468757	<55	NE	NE	NE	NE
Copper phthalocyanine (blue)	000147148	<17	NE	NE	NE	NE
Formaldehyde (all)	000050000	<1	NL	2/15	NL	NL
Carbon black (black)	001333864	<15	NA	3.5	NL	NL
Water (all)	007732185	<82	NE	NE	NE	NE
PHYSICAL DATA						
<b>THE FOLLOWING DATA ARE APPROXIMATE OR TYPICAL VALUES AND SHOULD NOT BE USED FOR PRECISE DESIGN PURPOSES.</b>						
<b>Boiling Range</b> >212	<b>Specific Gravity</b> 1.02	<b>Molecular Weight</b> NL		<b>Viscosity</b> NL		

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Percent Volatile by Volume NE	Vapor Pressure @20 C degrees NE	Vapor Density (Air = 1) NE	Pour, Congealing or Melting Point 32 F
Solubility in Water @1 ATM and 25°C (77°F) NE	Evaporation Rate @1 ATM and 25°C (77°F) (n-Butyl Acetate =1) NE	pH NE	
<b>FIRE AND EXPLOSION HAZARD INFORMATION</b>			
Flash Point (Minimum) NE	Autoignition Temperature NE	Test Mode	LEL NE
			UEL NE
<b>National Fire Protection Association (NFPA) — Hazard Identification</b>			
Health NL	Flammability NE	Reactivity NE	Basis
<b>Handling Precautions</b> Use standard safety precautions.			
<b>Flammable or Explosive Limits (Approximate Percent by Volume in Air)</b> NE			
<b>Extinguishing Media</b> Water, carbon dioxide, dry chemical powder, foam.			
<b>Fire Fighting Procedures</b> Firefighters must wear self-contained breathing apparatus and fully protective equipment. Fire water run-off should be diverted from adjacent waterways.			
<b>Decomposition Products Under Fire Condition</b> NE			
<b>“Empty” Container Warning</b> Use same applicable regulations as formaldehyde.			
<b>Unusual Fire and Explosion Hazards</b> Use water spray to disperse vapor.			
<b>HEALTH AND HAZARD INFORMATION</b>			
<b>Variability Among Individuals</b> NE			
<b>Signs and symptoms of overexposure</b> Chemical, physical and toxicological properties are not established for this material. Handle with the care required by good laboratory technique.			
<b>Effects of Overexposure</b> Continual contact of the skin may cause discoloration of skin in contact area.			
<b>Nature of Hazard and Toxicity Information</b> NL			

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<p><b>Pre-existing Medical Conditions which may be Aggravated by Exposure</b> Conditions of the skin.</p>		
<p><b>Threshold Limit Value</b> NL</p>		
<p><b>Health Hazards</b> Possible skin irritant.</p>		
<p><b>Carcinogenicity</b> Carbon black — IARC (animal sufficient evidence; human inadequate evidence).</p>		
<p><b>PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES</b></p>		
<p><b>Eye Contact</b> Flush eyes with water for at least 15 minutes while holding lids open. Do not remove contact lenses if worn. Contact physician immediately.</p>		
<p><b>Skin</b> Wash affected area with copious amounts of water for at least 15 minutes. Wash contaminated clothing.</p>		
<p><b>Inhalation</b> Remove to fresh air. Give oxygen or artificial respiration, as needed. Contact emergency personnel</p>		
<p><b>Ingestion</b> (orange) Call physician. If patient is conscious wash out mouth with water. Do not induce vomiting, do not give anything to drink. (red, blue, green, yellow, black) Induce vomiting as directed by medical personnel.</p>		
<p><b>SEEK MEDICAL TREATMENT IF DISCOMFORT PERSISTS.</b></p>		
<p><b>REACTIVITY</b></p>		
<p><b>Stability</b> Stable</p>	<p><b>Incompatibility</b> NE</p>	<p><b>Hazardous Decomposition Products</b> NE</p>
<p><b>Conditions to Avoid</b> High temperature</p>	<p><b>Hazardous Polymerization</b> Will not occur</p>	<p><b>Materials to Avoid</b></p>
<p><b>ENVIRONMENTAL INFORMATION</b></p>		
<p><b>Steps to be Taken in Case Material is Released or Spilled</b> Contain spilled liquid with non-combustible materials. This product contains formaldehyde (50-00-0) 0.05% of which is RCRA U122. Fire water run-off should be diverted from adjacent waterways.</p>		
<p><b>Waste Disposal Method</b> Regualtions – RCRA U122 listed waste. Discard supplied material according to Federal Regulations (40 CFR 261). It is to be determined by the user weather material at the time of disposal is subject to RCRA restrictions.</p>		

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<p><b>Disposal</b>                  Responsibility for proper disposal of waste lies with the party generating the waste. Transportation, storage and disposal of waste material must comply with 40 CFR 262, 263, 264, 268 and 270. Check with all federal, state and local regulations for applicable requirements.</p>					
<p><b>Protective Gear</b>                  Wear gloves, goggles and appropriate clothing during handling. Practice good hygiene.</p>					
<p><b>Precautions to be taken in handling and storage</b>                  Store material at 25°C. Keep storage container tightly closed. Avoid contact with skin and eyes. Do not inhale dried material. Wash thoroughly after handling. Do not cut, grind, weld, or reuse container unless adequate measures are taken. Do not eat, drink or smoke in storage areas.</p>					
<p><b>THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES.</b></p>					
<p><b>Reportable Quantity (RQ), EPA Regulation 40 CFR 302 (CERCLA Section 102)</b>                  NE</p>					
<p><b>Threshold Planning Quantity (TPQ), EPA Regulation 40 CFR 355 (SARA Sections 301-304)</b>                  NNR</p>					
<p><b>Toxic Chemical Release Reporting, EPA Regulation 40 CFR 372 (SARA Section 313)</b>                  Ammonia 7664-41-7 &lt;2%</p>					
<p><b>Hazardous Chemical Reporting, EPA Regulation 40 CFR 370 (SARA Sections 311-312)</b></p>					
<p><b>Acute Hazard</b>                  NE</p>	<p><b>Chronic Hazard</b>                  NE</p>	<p><b>Fire Hazard</b>                  NL</p>	<p><b>Pressure Hazard</b>                  NL</p>	<p><b>Reactive Hazard</b>                  NE</p>	<p><b>Not Applicable</b></p>
<p><b>SPECIAL STATE NOTIFICATIONS</b>                  California: This product contains a substance known to the state of California to cause cancer.</p>					
<p><b>PROTECTION AND PRECAUTIONS</b></p>					
<p><b>Ventilation</b>                  Mechanical ventilation sufficient to keep below TLVs</p>					
<p><b>Respiratory Protection</b>                  OSHA/MHSA approved respirator if needed.</p>					
<p><b>Protective Gloves</b>                  Rubber</p>					
<p><b>Eye Protection</b>                  Safety goggles.</p>					
<p><b>Other Protective Equipment</b>                  Safety shower, eye bath.</p>					

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TRANSPORTATION AND OSHA RELATED LABEL INFORMATION
Transportation Incident Information NL
U.S. DOT Hazardous Materials Shipping Description Non-Regulate, dye
OSHA Required Label Information NL

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