

# MATERIAL SAFETY DATA SHEET

<b>SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION</b>					
<b>PRODUCT NAME:</b> Mitsubishi TDP - DA1 Fountain Solution Additive		<b>DATE:</b> March 1, 2011			
<b>PRODUCT NUMBER:</b>		<b>DATE:</b> March 1, 2011			
<b>TRADE NAME:</b> Mitsubishi TDP - DA1 Fountain Solution Additive <b>GENERAL USE:</b> Fountain solution additive. <b>CHEMICAL FAMILY:</b> Polyhydric alcohol. <b>PRODUCT DESCRIPTION:</b> Clear colorless solution, slight odor.					
<b>MANUFACTURER</b> Mitsubishi Paper Mills Ltd.		<b>DATE PREPARED:</b> March 1, 2011			
<b>ADDRESS (NUMBER, STREET, P.O. BOX)</b> 4-2 Marunouchi 3-Chome		<b>SUPERSEDES:</b> January 27, 2011			
<b>(CITY, STATE AND ZIP CODE)</b> Chiyoda-ku, Tokyo 100-0005		<b>TELEPHONE NUMBER FOR INFORMATION / Customer Service</b> 81-3-3213-3743			
<b>COUNTRY</b> Japan		<b>24-HOUR EMERGENCY TELEPHONE NUMBER</b>			
<b>DISTRIBUTOR</b> Mitsubishi Imaging (MPM), Inc.		<b>Chemtrec</b> (800) 424-9300 (703) 527-3887 North America Toll Free International			
<b>ADDRESS (NUMBER, STREET, P.O. BOX)</b> 555 Theodore Fremd Avenue		<b>TELEPHONE NUMBER FOR INFORMATION / Customer Service</b> (914) 925-3200			
<b>(CITY, STATE AND ZIP CODE)</b> Rye, NY 10580		<b>24-HOUR EMERGENCY TELEPHONE NUMBER</b>			
<b>COUNTRY</b> USA		<b>Chemtrec</b> (800) 424-9300 (703) 527-3887 North America Toll Free International			
<b>SECTION 2 - HAZARDOUS INGREDIENTS</b>					
Hazardous Components	% (by Weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES (Full Text Section 15)
Glycerol	60-80	56-81-5	200-289-5	None	None
NOTES: This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS), and European Union Directive 91/155/EEC. Hazard symbols and risk phrases are based on maximum listed concentration of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS) or the European (GHS) directive 91/155/EEC and are considered trade secrets under US Federal Law (29CFR and 40CFR), Canadian Law (Health Canada Legislation), and European Union Directive 67/548/EEC.					
<b>SECTION 3 - HAZARDS IDENTIFICATION</b>					
<b>EMERGENCY OVERVIEW</b>					
<b>Caution! Breathing product mists when sprayed presents an aspiration hazard for lung tissues interfering with the normal composition of lung surfactant coatings. May cause central nervous system effects. Target Organs: Eyes, Skin, Central Nervous System (CNS), Kidneys and Blood.</b>					
<b>POTENTIAL HEALTH EFFECTS</b>					
<b>INHALATION:</b>					
Breathing concentrated vapors and mists may cause irritation of respiratory tract and present an aspiration hazard by interference with normal lung surfactant coatings.					
<b>SKIN:</b>					
Mild irritant effect on skin.					
<b>EYES:</b>					
Mild irritant effect on eyes.					
<b>INGESTION:</b>					
May cause gastric distress, vomiting and diarrhea.					
<b>CARCINOGENICITY:</b>					
NTP? <b>NO</b>		IARC MONOGRAPHS? <b>NO</b>		OSHA REGULATED? <b>NO</b>	
CALIFORNIA, Prop.65? <b>NO</b>				ESIS NOTATION? <b>NO</b>	

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## SECTION 4 - FIRST AID MEASURES

**INHALATION:**  
 Remove affected person to fresh air; wash mouth and nasal passages with water repeatedly; if breathing difficulties persist seek medical attention.

**EYES:**  
 Remove contact lenses. Immediately flush eyes for 15 minutes in clear running water while holding eyelids open; seek medical attention immediately.

**SKIN:**  
 Wash contacted area with soap and water; DO NOT attempt to neutralize with chemical agents; if irritation persists, seek medical attention.

**INGESTION:**  
 Drink two glasses of water followed by milk, milk of magnesia or other non-alcoholic liquids; DO NOT induce vomiting; never give anything by mouth to an unconscious person; seek medical attention immediately.

## SECTION 5 - FIRE FIGHTING MEASURES

**GENERAL HAZARDS:**  
 Product is slippery when spilled. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide.

**EXTINGUISHING MEDIA:**  
 Carbon Dioxide, water, water fog, dry chemical, chemical foam.

**FIRE FIGHTING PROCEDURES:**  
 Keep containers cool with water spray to prevent container rupture due to steam buildup; floor will become slippery if material is released. Material will irritate the eyes if product is allowed to directly contact the eyes.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**  
 None.

**HAZARDOUS COMBUSTION PRODUCTS:**  
 Smoke, fumes, oxides of carbon.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**  
 Material will irritate the eyes if product is allowed to directly contact the eyes. Wash small spills to sanitary sewer. Large spills - confine spill, soak up with approved absorbent, shovel product into approved container for disposal.

## SECTION 7 - HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**  
 Keep container closed when not in use; protect containers from abuse; protect from extreme temperatures. Keep this and other chemicals out of reach of children.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HAZARDOUS COMPONENTS	NIOSH				ACGIH		OSHA	
	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	TLV/TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>
<b>Glycerol</b>		<b>5 mg/m<sup>3</sup> (resp)</b>				<b>TWA: 10 mg/m<sup>3</sup></b>		<b>15 mg/m<sup>3</sup> (total)</b>

**PERSONAL PROTECTION**

**RESPIRATORY PROTECTION:**  
 Use breathing protection only when aerosol or mist is formed. None required while threshold limits are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

**PROTECTIVE GLOVES:**  
 Neoprene gloves, butyl or nitrile rubber gloves with cuffs.

**EYE PROTECTION:**  
 Protective eyeglasses or chemical safety goggles. Refer to 29 CFR 1910.133 or European Standard EN166.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:**  
 Coveralls, apron, or other equipment should be worn to minimize skin contact, safety eyewash station nearby.

**WORK / HYGIENIC PRACTICES:**  
 Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

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<b>SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES</b>			
APPEARANCE AND ODOR <b>Clear colorless solution, slight odor.</b>		VAPOR PRESSURE <b>0.0025mmHg (50°C)</b>	
pH <b>NE</b>		SPECIFIC GRAVITY (WATER = 1) <b>1,250-1,264 (20°C)</b>	
BOILING POINT / BOILING RANGE <b>388.4°F (198°C)</b>		SOLUBILITY IN WATER <b>Complete</b>	
FLASH POINT <b>None detected (Cleveland Open Cup Test)</b>		VISCOSITY <b>Not Specified</b>	
FLAMMABLE LIMITS LEL: <b>NA</b> UEL: <b>NA</b>		VAPOR DENSITY (AIR = 1) <b>3.1</b>	
AUTO-IGNITION TEMPERATURE <b>NE</b>		EVAPORATION RATE (WATER = 1) <b>&gt;1</b>	
VOLATILE ORGANIC COMPOUND (VOC) INFORMATION <b>There are no known Volatile Organic Compounds (VOCs) in this product.</b>			
<b>SECTION 10 - STABILITY AND REACTIVITY</b>			
STABILITY Stable under normal conditions of use.		CONDITIONS TO AVOID: Extreme temperatures.	
INCOMPATIBILITY (MATERIALS TO AVOID): Incompatible with strong oxidizers Incompatible with hydrogen peroxide, potassium permanganate, nitric acid + sulfuric acid, perchloric acid + lead oxide, acetic anhydride, aniline + nitrobenzene, Ca(OCl) <sub>2</sub> , CrO <sub>3</sub> , F <sub>2</sub> + PbO, KMnO <sub>4</sub> , K <sub>2</sub> O <sub>2</sub> , AgClO <sub>4</sub> and NaH Reacts with acetic acid, potassium peroxide, sodium peroxide, hydrochloric acid, (HClO <sub>4</sub> + PbO) and Na <sub>2</sub> O <sub>2</sub> Reacts with ethylene oxide, perchloric acid, nitric acid + hydrofluoric acid and phosphorus triiodide.			
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.			
HAZARDOUS POLYMERIZATION: Will Not Occur.		CONDITIONS TO AVOID: None Related to Polymerization.	
<b>SECTION 11 - TOXICOLOGICAL INFORMATION</b>			
Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
<b>Glycerol</b>	<b>56-81-5</b>	<b>12600 mg/kg (Rat)</b>	<b>570 mg/m<sup>3</sup> (Rat) 1 h</b>
	<b>200-289-5</b>	<b>4090 mg/kg (Mouse)</b>	
<b>SECTION 12 - ECOLOGICAL INFORMATION</b>			
No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system. None of the ingredients in this mixture are classified as a Marine Pollutant.			
<b>SECTION 13 - DISPOSAL CONSIDERATIONS</b>			
WASTE DISPOSAL METHOD: According to the European Waste Catalogue, waste codes are application specific and should be assigned by the user based on the application for which the product is used. Dispose of in accordance with Local, State, and Federal Regulations Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals. Burn product in a chemical incinerator equipped with an afterburner and scrubber.			
<b>SECTION 14 - TRANSPORT INFORMATION</b>			
PROPER SHIPPING NAME: <b>Not Regulated for Transport.</b>			
DOT HAZARD CLASS / Pack Group: <b>Not Regulated</b>		IATA HAZARD CLASS / Pack Group: <b>Not Regulated</b>	
REFERENCE: <b>NA</b>		IMDG HAZARD CLASS: <b>Not Regulated</b>	
UN / NA IDENTIFICATION NUMBER: <b>None</b>		RID/ADR Dangerous Goods Code: <b>Not Regulated</b>	
LABEL: <b>None Required</b>		UN TDG Class / Pack Group: <b>Not Regulated</b>	
HAZARD SYMBOLS: <b>None</b>		Hazard Identification Number (HIN): <b>None</b>	
Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.			

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## SECTION 15 - REGULATORY INFORMATION

**TSCA (USA - Toxic Substance Control Act):** All components of this product are listed.  
**SARA TITLE III (USA - Superfund Amendments and Reauthorization Act):** Immediate health.  
 Acute Health: **NO** Chronic Health: **NO**  
 Fire: **NO** Sudden Release of Pressure: **NO**  
 Reactive: **NO**

**SARA 313 REPORTABLE INGREDIENTS:** None.  
**CERCLA (USA - Comprehensive Response Compensation and Liability Act):** None.  
**California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986:** None.  
**CPR (Canadian Controlled Products Regulations):** WHMIS Classification: Non-controlled.  
**IDL (Canadian Ingredient Disclosure List):** None Listed.  
**DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List):** Components of this product identified by CAS number are listed on the DSL or NDSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations.  
**EINECS (European Inventory of Existing Commercial Chemical Substances):** Referenced.  
**WGK Water Quality Index:** 1 **VbK Index:** NA

RISK PHRASES:	SYMBOL(S) REQUIRED FOR EU LABEL	SAFETY PHRASES:
None Listed.	None Listed.	S2: Keep out of the reach of children. S24/25: avoid contact with skin and eyes. S24/25: Avoid contact with skin and eyes. S36/37/39: Wear suitable protective clothing, gloves and eye and face protection.

## SECTION 16 - OTHER INFORMATION

**Legend:**

- ACGIH - American Congress of Government Industrial Hygienists**
- CAS - Chemical Abstracts Service**
- EINECS - European Inventory of Existing Commercial Chemical Substances**
- HMIS - Hazardous Materials Identification System**
- IARC - International Agency for Research on Cancer**
- NA - Not Available**
- ND - Not Determined**
- NE - Not Established**
- NR - Not Reported**
- NIOSH - National Institute for Occupational Safety and Health**
- NTP - National Toxicology Program**
- OSHA - Occupational Safety and Health Administration**

<b>HMIS HAZARD RATINGS</b>	<b>HEALTH:</b> 1 <b>FLAMMABILITY:</b> 1 <b>PHYSICAL HAZARD:</b> 0 <b>PERSONAL PROTECTIVE EQUIPMENT:</b> C	0 = INSIGNIFICANT 1 = SLIGHT 2 = MODERATE 3 = HIGH 4 = EXTREME
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**REVISION SUMMARY:** Issued to USA (ANSI), Canada (WHMIS), EU and GHS protocols 3/1/2011 --JTV---

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The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.