

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Mitsubishi SLM-OH III Etching Solution		DATE: December 16, 2008
PRODUCT NUMBER:		
TRADE NAME: Mitsubishi SLM-OH III Etching Solution GENERAL USE: Starter solution for SLM CHEMICAL FAMILY: PRODUCT DESCRIPTION: Colorless liquid, odorless.		
MANUFACTURER Mitsubishi Imaging (MPM), Inc.	DATE PREPARED: December 16, 2008	SUPERSEDES: August 14, 2007
ADDRESS (NUMBER, STREET, P.O. BOX) 555 Theodore Fremd Avenue	TELEPHONE NUMBER FOR INFORMATION / Customer Service (914) 925-3200	
(CITY, STATE AND ZIP CODE) Rye, NY 10580	COUNTRY USA	Chemtrec 24-HOUR EMERGENCY TELEPHONE NUMBER 1-800-424-9300 01-703-527-3887 North America Toll Free International

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Components	% (by Weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES (Full Text Section 15)
Dipropylene Glycol	1 - 5	25265-71-8	246-770-3	NC	Not Classified
Sodium Phosphate Monobasic	1 - 5	7558-80-7	231-449-2	NC	Not Classified

NOTES: Note: 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.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Slightly acidic liquid, contact may cause skin & eye irritation. Ingestion may cause gastric distress.
Hazard symbols for this product - **None**, Risk Phrases - **Not classified**

POTENTIAL HEALTH EFFECTS

INHALATION:
Inhalation of mists or vapors may cause irritation to upper respiratory tract and mucous membranes.

SKIN:
Contact with skin may cause irritation, dermatitis.

EYES:
Contact with eyes may cause pain and irritation.

INGESTION:
May be irritating to digestive tract; may cause gastric distress, stomach pains.

CARCINOGENICITY:

NTP? NO	IARC MONOGRAPHS? NO	OSHA REGULATED? NO
CALIFORNIA, Prop.65? NO		ESIS NOTATION? NO

SECTION 4 - FIRST AID MEASURES

INHALATION:
Remove affected person to fresh air; if symptoms persist seek medical attention.

EYES:
Remove contact lenses. Flush eyes with water for 15 minutes; if irritation persists, seek medical attention.

SKIN:
Remove contaminated clothing; wash affected area with soap and water; launder contaminated clothing before reuse; if irritation persists, seek medical attention.

INGESTION:
Give two glasses of water for dilution; DO NOT induce vomiting; never give anything by mouth to an unconscious person; seek medical attention.

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SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS:

Product is not considered flammable or combustible. 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.

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:

Small spills - wash to sanitary sewer with plenty of water. Large spills - soak up with approved absorbent, shovel product into approved container for disposal. Wash area with plenty of water.

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.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HAZARDOUS COMPONENTS	NIOSH				ACGIH		OSHA	
	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3	TLV/TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3
Dipropylene Glycol		NE				NE		
Sodium Phosphate Monobasic		NE				NE		

PERSONAL PROTECTION

RESPIRATORY PROTECTION:

None required while threshold limits are kept below maximum allowable concentrations; if TWA exceeds standard workplace limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

PROTECTIVE GLOVES:

Neoprene or 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.

WORK / HYGIENIC PRACTICES:

Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR Colorless liquid, odorless.	VAPOR PRESSURE 17 mm Hg @ 20° C
pH 6.0 - 6.1	SPECIFIC GRAVITY (WATER = 1) 1.010 ± 0.005
BOILING POINT / BOILING RANGE 212° F (100° C)	SOLUBILITY IN WATER Complete
FLASH POINT Non-Flammable	VISCOSITY Not Specified
FLAMMABLE LIMITS LEL: NA UEL: NA	VAPOR DENSITY (AIR = 1) > 1
AUTO-IGNITION TEMPERATURE ND	EVAPORATION RATE (WATER = 1) < 1

VOLATILE ORGANIC COMPOUND (VOC) INFORMATION

There are no known Volatile Organic Compounds (VOCs) in this product.

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SECTION 10 - STABILITY AND REACTIVITY

STABILITY	STABLE	X	CONDITIONS TO AVOID: Extreme temperatures, keep from freezing.
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INCOMPATIBILITY (MATERIALS TO AVOID):
Strong oxidizers, strong acids.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:
Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes, and smoke may be produced.

HAZARDOUS POLYMERIZATION: Will Not Occur.	CONDITIONS TO AVOID: None Related to Polymerization.
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SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Dipropylene Glycol	25265-71-8	14,800 mg / kg Oral - Rat	NE
	246-770-3		
Sodium Phosphate Monobasic	7558-80-7	8290 mg / kg Oral - Rat	NE
	231-449-2		

Do not allow undiluted and/or large quantities of product to enter sewage systems or reach ground water or bodies of water.

SECTION 12 - ECOLOGICAL INFORMATION

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.

SECTION 13 - DISPOSAL CONSIDERATIONS

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. Product is classified as non - hazardous, however, non-hazardous materials may become hazardous waste upon contact with other products. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not Regulated	
DOT HAZARD CLASS / Pack Group: Not Regulated	IATA HAZARD CLASS / Pack Group: Not Regulated
REFERENCE: NA	IMDG HAZARD CLASS: Not Regulated
UN / NA IDENTIFICATION NUMBER: None	RID/ADR Dangerous Goods Code: Not Regulated
LABEL: None Required	UN TDG Class / Pack Group: Not Regulated
HAZARD SYMBOLS: None	Hazard Identification Number (HIN): None

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): None
 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: No
CPR (Canadian Controlled Products Regulations): WHMIS Classification: D2B
IDL (Canadian Ingredient Disclosure List): 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:
Not Classified	None	S2 : Keep out of the reach of children. S24/25 : Avoid contact with skin and eyes.

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**

HMIS HAZARD RATINGS	HEALTH:	1	0 = INSIGNIFICANT
	FLAMMABILITY:	0	1 = SLIGHT
	PHYSICAL HAZARD:	0	2 = MODERATE
	PERSONAL PROTECTIVE EQUIPMENT:	C	3 = HIGH
			4 = EXTREME

REVISION SUMMARY:
 Revised to GHS/E.U. protocols 12/16/2008 supersedes 8/14/2007 issue.

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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.