INNOVATIVE PATHOLOGY CONCEPTS, INC.

Advancing the medical field with INNOVATIVE products

SDS

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: **"Mr." Mordant™**

Product Code(s): RMRIBMM

Synonyms: Mixture.

Recommended Use: For manufacturing, industrial, and laboratory use only. For use as a solvent or as a laboratory reagent.

Uses Advised Against: Not for food, drug, or household use.

Supplier: Innovative Pathology Concepts, Inc.
P.O. Box 32287, Baltimore, MD 21282
Phone: (410) 602-0472 Fax: (410) 602-3977

Emergency Phone Number: For health emergency call poison control: (800) 222-1222.

2. HAZARDS IDENTIFICATION

Hazard Classifications:

Acute Toxicity – Oral:	Category 4
Skin Corrosion/Irritation:	Category 2
Eye Damage/Irritation:	Category 1
Specific Target Organ Toxicity (Single Exposure):	Category 1
Flammable Liquids	Category 3

Signal Word: DANGER

Hazard Statements:
Harmful if swallowed.
Causes skin irritation.
Causes serious eye damage.
Causes damage to organs.
Flammable liquid and vapor.

Pictograms:

Precautionary Statements:

Prevention:
Wash thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Wear protective gloves, eye protection, and face protection.
Do not breathe fumes, mists, vapors, or spray.
Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Keep container tightly closed.
Ground container and receiving equipment.
Use explosion-proof electrical, ventilating, lighting, and transportation equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

Response:
If exposed: Call a poison center or doctor.
If swallowed: Rinse mouth.
If on skin (or hair): Wash with plenty of water. Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
In case of fire: Use water spray, dry powder, alcohol resistant foam, or carbon dioxide to extinguish.

Storage:
Store locked up.
Store in a well-ventilated place. Keep cool.

Disposal:
Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazards Not Otherwise Classified:
Toxic to humans. Primates are especially susceptible to the toxic effects of methanol, which are not reflected through toxicity data (see Section 11).
May cause adverse reproductive effects.
May cause aspiration hazard if vomited.
Excessive exposure may cause skin or respiratory sensitization and tooth decay.

Toxicity Statement:
Not applicable.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Water	Water	7732-18-5	H_2O	78.4
Acetone	2-Propanone	67-64-1	C_3H_6O	8.52
Methyl Alcohol	Methanol	67-56-4	CH_3OH	8.52
Acetic Acid	Ethanoic Acid	64-19-7	$C_2H_4O_2$	4.52

Trade Secret Statement:
Not applicable.

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation:
Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious, or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediately call a poison center or doctor.

Ingestion:	Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor.
Skin Contact:	Remove contaminated clothing and shoes. Wash skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Call a poison center or doctor if symptoms occur.
Eye Contact:	Check for and remove contact lenses if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Immediately call a poison center or doctor.
General Advice:	Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that medical personnel and those providing first aid are aware of the material(s) involved and take precautions to protect themselves.
Symptoms and Effects:	Irritation, blistering, burns, dermatitis, visual disturbances, drowsiness, dizziness, unconsciousness, metabolic acidosis, suffocation, shortness of breath, coughing, nausea, vomiting, diarrhea, constipation, abdominal pain, blindness, bronchitis, cardiovascular effects, blindness. Corrosive. Harmful if swallowed or inhaled. May cause burns to the eyes, skin, respiratory tract, and gastrointestinal tract. May drowsiness/dizziness or blindness if absorbed into the blood stream. May affect the mucous membranes, blood, brain, urinary system, spleen, liver, eyes, kidneys, cardiovascular system, and pancreas. Prolonged or repeated exposure may affect the teeth, skin, respiratory tract, central nervous system, eyes, liver, and kidneys; may cause mutagenic effects, skin sensitization, damage to eyesight, dermatitis, and reproductive effects.
Immediate Medical Care/ Special Treatment:	Get medical attention immediately if feeling unwell or concerned. Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, dry powder, alcohol resistant foam, carbon dioxide.
Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream, as it may scatter and spread fire.
Hazardous Combustion Products:	Carbon oxides.
Specific Hazards:	Flammable. Vapors may case flash fire or ignite explosively. Can be ignited easily by heat, sparks, or flames and burns vigorously. Material may burn with an invisible flame. Sealed containers may explode when heated or involved in fire. Material is sensitive to static discharge. Vapors may travel considerable distance to source of ignition and flash back. Vapor from the solvent may accumulate in container headspace, resulting in flammability hazard. High vapor concentration in air may cause an explosion hazard.
Special Protective Equipment/ Precautions for Firefighters:	As in any fire, wear MSHA/NIOSH approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear. Use water spray to cool unopened containers. Move containers from fire area, if you can do so without risk. This material may evaporate if spilled and leave a flammable residue. In the event of fire and/or explosion, do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment: Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Keep out of low areas. Wear appropriate personal protective equipment (see Section 8). Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. Avoid contact with eyes, skin, and clothing.

Emergency Procedures: In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).

Methods for Containment: Eliminate all sources of ignition. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements, or confined areas. Dike the spilled material, where this is possible. Product should not be released to the environment. Contain and recover liquid when possible.

Methods for Cleanup: Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleece) and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Residues from spills can be diluted with water. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Do not handle, store, or open near an open flame, sources of heat, or sources of ignition. Wear personal protective equipment (see Section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work areas. Avoid contact with skin, eyes, and clothing. Do not breathe vapors or spray mist. Do not ingest. When using, do not eat, drink, or smoke. Take precautionary measures against static discharge. To avoid ignition of vapors by static electricity discharge, all metal parts of equipment must be grounded. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

Storage: Store in a cool, dry, ventilated area. Store in a segregated and approved area away from heat and incompatible materials (see Section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Ground container and transfer equipment. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

Water: No information found.

Acetone:

ACGIH:	TWA:	500 ppm
	STEL:	750 ppm
OSHA:	TWA:	750 ppm
	PEL:	1000 ppm
NIOSH:	REL:	250 ppm

Methyl Alcohol:	ACGIH:	TWA:	200 ppm
		STEL:	250 ppm
		BEL:	15 mg/L
	OSHA:	PEL:	200 ppm
			260 mg/m^3
Acetic Acid:	ACGIH:	TWA:	10 ppm
		STEL:	15 ppm
	OSHA:	PEL:	10 ppm
	NIOSH:	IDLH:	50 ppm
		TWA:	10 ppm
		STEL:	15 ppm

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Measures:

Eye/Face Protection: Wear safety glasses with side shields or goggles and a face shield. Maintain approved eye wash station and accessible rinse facilities in work area.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

Specific Requirements for Personal Protective Equipment: Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless, transparent liquid.

Odor: Mild, vinegar.

Odor Threshold: No information found.

Formula Weight: Mixture.

pH: No information found.

Melting/Freezing Point: No information found.

Boiling Point/Range: No information found.

Decomposition Temperature: No information found.

Flash Point: ≥ 37.5 ℃ (estimated)

Auto-ignition Temperature: No information found.

Flammability: Flammable liquid and vapor.

Flammability/Explosive Limits: No information found.

Solubility:	Miscible with water.
Vapor Pressure:	No information found.
Vapor Density:	No information found.
Specific Gravity:	0.928 (Water = 1)
Evaporation Rate:	No information found.
Viscosity:	No information found.
Partition Coefficient (n-octanol/water):	No information found.

10. STABILITY AND REACTIVITY

Reactivity Data:	Flammable. See Section 9. Corrosive. See Section 11.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat, flames, sparks, sources of ignition, incompatible materials.
Incompatible Materials:	Oxidizing agents, strong bases, strong acids, metals, amines, carbonates, phosphates, ammonia.
Hazardous Decomposition Products:	Carbon oxides, hydrogen.
Possibility of Hazardous Reactions:	May react vigorously, violently, or explosively if exposed to excess thermal conditions or in contact with the incompatible materials listed above. Contact with metals may yield hazardous concentrations of hydrogen gas.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure:	Inhalation, ingestion, skin contact, eye contact.		
Acute Effects:	Corrosive. Harmful if swallowed or inhaled. May cause burns to the eyes, skin, respiratory tract, and gastrointestinal tract. May drowsiness/dizziness or blindness if absorbed into the blood stream. May affect the mucous membranes, blood, brain, urinary system, spleen, liver, eyes, kidneys, cardiovascular system, and pancreas.		
Chronic Effects:	Prolonged or repeated exposure may affect the teeth, skin, respiratory tract, central nervous system, eyes, liver, and kidneys; may cause mutagenic effects, skin sensitization, damage to eyesight, dermatitis, and reproductive effects.		
Toxicological Data:	Water:	Not applicable.	
	Acetone:	LD_{50} Oral, Rat:	5800 mg/kg
		LD_{50} Dermal, Rabbit:	20,000 mg/kg
		LC_{50} Inhalation, Rat:	50.1 mg/L 8 h
		Causes mild skin irritation based on animal data.	
		Causes moderate to severe eye irritation based on animal data.	

Methyl Alcohol:	LD_{50} Oral, Rat:	5628 mg/kg
	LD_{50} Dermal, Rabbit:	15,800 mg/kg
	LC_{50} Inhalation, Rat:	87.6 mg/L 6 h
	LDL Oral, Human:	143 mg/kg
	Toxic to reproduction based on animal data.	
Acetic Acid:	LD_{50} Oral, Rat:	3310 mg/kg
	LD_{50} Dermal, Rabbit:	1060 mg/kg
	LC_{50} Inhalation, Rat:	11.4 mg/L 4 h
	Corrosive to skin and eyes based on animal data.	
	May cause reproductive effects based on animal data.	

Symptoms of Exposure: Irritation, blistering, burns, dermatitis, visual disturbances, drowsiness, dizziness, unconsciousness, metabolic acidosis, suffocation, shortness of breath, coughing, nausea, vomiting, diarrhea, constipation, abdominal pain, blindness, bronchitis, cardiovascular effects, blindness.

Carcinogenic Effects: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Data:	Water:	Not applicable.	
	Acetone:	LC_{50}, Rainbow Trout (Oncorhynchus mykiss):	5540 mg/L 96 h
		LC_{50}, Fathead Minnow (Pimephales promelas):	9640 mg/L 96 h
		EC_{50}, Water Flea (Daphnia magna):	12,100 mg/L 48 h
	Methyl Alcohol:	EC_{50}, Water Flea (Daphnia magna):	> 10,000 mg/L 48 h
		LC_{50}, Fathead Minnow (Pimephales promelas):	> 100 mg/L 96 h
	Acetic Acid:	EC_{50}, Water Flea (Daphnia magna):	47 mg/L 24 h
		LC_{50}, Fathead Minnow (Pimephales promelas):	88 mg/L 96 h
		LC_{50}, Rainbow Trout (Oncorhynchus mykiss):	> 1000 mg/L 96 h

Persistence and Degradability: Expected to be readily biodegradable.

Environmental Effects: May be harmful to aquatic organisms. Avoid release to the environment.

13. DISPOSAL INFORMATION

Disposal Instructions: All wastes must be handled in accordance with local, state, and federal regulations. Minimize exposure to product waste (see Section 8). Do not dispose unused waste down drains or into sewers.

Contaminated Packaging: Because emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near product container. Offer rinsed packaging material to local recycling facilities.

Waste Codes:
D001: Waste flammable material (with a flash point <140 °F)
D002: Waste corrosive material (pH ≤ 2 or pH ≥12.5 or corrosive to steel)

14. TRANSPORT INFORMATION

DOT:

UN Number: UN1993

Proper Shipping Name: Flammable liquids, n.o.s. (Acetone, methanol)

Hazard Class: 3

Packing Group: III

ERG Number: 128

Environmental Hazard Regulations: No information found.

Other Transport Precautions: DOT Reportable Quantity: Acetone: 5000 lb
Methyl Alcohol: 5000 lb
Acetic Acid: 5000 lb

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: All components of this product are on the U.S. TSCA Inventory.

U.S. EPCRA (SARA Title III):

Section 302: No information found.

Sections 311/312:

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

Section 313: Acetone, methanol.

CERCLA Reportable Quantities: Acetone: 5000 lb
Methyl Alcohol: 5000 lb
Acetic Acid, Glacial: 5000 lb

International Inventories:

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	N/A
Canada	Domestic Substances List (DSL)	N/A
Canada	Non-Domestic Substances List (NDSL)	N/A
China	Inventory of Existing Chemical Substances in China (IECSC)	N/A
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	N/A
Europe	European List of Notified Chemical Substances (ELINCS)	N/A
Japan	Inventory of Existing and New Chemical Substances (ENCS)	N/A
Korea	Existing Chemicals List (ECL)	N/A
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	N/A

*A "Yes" indicates that the listed component(s) of this product comply with the inventory requirements administered by the governing country(s).

16. OTHER INFORMATION

Disclaimer: Innovative Pathology Concepts provides the information in this Safety Data Sheet in the belief that it is reliable but assumes no responsibility for its completeness or accuracy. The physical properties reported in this SDS are obtained from literature and do not constitute product specifications. Innovative Pathology Concepts makes and gives no representations or warranties with respect to the information contained herein or the product to which it refers, whether express, implied, or statutory, including without limitation, warranties of accuracy, completeness, merchantability, non-infringement, performance, safety, suitability, stability, and fitness for a particular purpose. No warranty against infringement of any patent, copyright or trademark is made or implied. This SDS is intended only as a guide to the appropriate handling of the material by a properly trained person. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. Accordingly, Innovative Pathology Concepts assumes no liability whatsoever for the use of or reliance upon this information including results obtained, incidental or consequential damages, or lost profits.

Issue Date: July 14, 2015

Reason for Revision: Not applicable.