

# MATERIAL SAFETY DATA SHEET

## Metzger-McGuire

<b>Section 1. Chemical Product and Company Identification</b>	
Product name/ <b>M-Flush</b> Trade Name Manufacturer Metzger-McGuire P.O. Box 2217 Concord, NH 03302	<b>IN CASE OF EMERGENCY:</b>  INFOTRAC: 1-800-535-5053  INFORMATION: 1-800-223-6680
Date of Preparation: 3/30/10	Replaces:
Preparers Name Peter E. Spinney	

<b>Section 2. Composition, Information on Ingredients</b>			
Component Information		Exposure Limits	
Chemical Name:	CAS#	TLV (ppm) ACGIH	OSHA PEL, TWA
N-Methyl-2-pyrrolidinone	872-50-4	N/E	N/E

TLV™-Threshold Limit Value exposure (8 hour, time weighted average unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. PEL - OSHA Permissible Exposure Limit. N/E indicates that no exposure limit has been established.

<b>Section 3. Hazards Identification</b>	
<b>WARNING!</b> Causes eye, skin and respiratory tract irritation. May cause harm to the unborn child. <b>Combustible liquid and vapor.</b> May be harmful if swallowed, inhaled or absorbed through the skin. Light Sensitive. Hygroscopic (absorbs moisture from the air)	
<b>Primary Routes of Exposure:</b> X Skin contact    X Eye Contact    X Inhalation    Ingestion	
Routes of Exposure	Symptoms
<b>Inhalation</b>	Respiratory irritation, nasal discharge and difficulty breathing may occur after exposure to aerosol or high vapor concentrations..
<b>Skin</b>	Skin absorption hazard. Mildly irritating to the skin but not a skin sensitizer.
<b>Eyes</b>	Moderate to severe eye irritant. Excess redness of the conjunctiva may occur. Permanent corneal damage is not expected.
<b>Ingestion</b>	Ingestion may cause discomfort and irritation of the gastrointestinal tract, dizziness and shortness of breath.
<b>Chronic</b>	Repeated inhalation exposure may cause reversible irritation at the site of initial contact, and transient CNS effects have also been observed. NMP produced liver tumors and kidney effects in test animals. NMP may adversely affect reproduction in rats after ingestion, although fertility is unaltered. Fetal effects were seen in pregnant animals exposed to NMP by ingestion, inhalation and skin contact. The relevance of these findings to humans is unknown.
<b>Carcinogenicity</b>	OSHA: Not Listed      NTP: Not Listed      IARC: Not Listed

<b>Section 4. First Aid Measures</b>	
<b>Eyes</b>	Immediately flush the eyes with large amounts of low-pressure water for at least 15 minutes, occasionally lifting the lower and upper lids. If irritation persists, seek medical attention.
<b>Skin</b>	Immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing. wash the skin with soap and water.
<b>Inhalation</b>	If overcome by exposure, immediately move the victim to fresh air. Administer oxygen or artificial respiration as needed. Prompt action is essential. Obtain emergency medical attention if symptoms persist.
<b>Ingestion</b>	If large quantities have been swallowed, give lukewarm water (pint/1/2 liter) if victim is

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	conscious/alert. Do not induce vomiting. Risk of damaging the lungs exceeds poisoning risk. Obtain emergency medical attention. Note to Physician: Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.
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<b>Section 5. Fire Fighting Measures</b>	
<b>Extinguishing Media:</b> Carbon Dioxide    Sand    Dry Chemical    Foam	
<b>Flash Point</b>	86C (186.8F) closed cup    LEL: N/D    UEL: N/D
<b>Flammability Classification OSHA/NFPA</b>	Class 111A    Combustible Liquid
<b>Extinguishing Media</b>	Carbon dioxide, water spray, dry chemical, foam.
<b>Unusual Fire and Explosions Hazards</b>	When heated above the flash point, releases flammable vapors. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. Fire fighters should wear positive-pressure self-contained breathing apparatus (SCBA) and protective clothing. Cool closed containers with WATER SPRAY to avoid rupture of containers. Heat from fire can generate vapor and decomposition products that may cause a health hazard.

<b>Section 6. Accidental Release Measures</b>
<b>COMBUSTIBLE LIQUID.</b> ISOLATE AREA OF THE SPILL! Eliminate all ignition sources. Soak up small spills with inert solids such as vermiculite or other absorbent materials. Shovel into suitable disposal container. Persons not wearing protective equipment should be excluded from the area of spill until cleanup has been completed.

<b>Section 7. Handling &amp; Storage</b>
Store material in a clean, ventilated area at 32-80F. Clean up spills at once. Keep container tightly closed when not in use. Avoid skin and eye contact. Avoid breathing vapors if generated. Always wear protective equipment. Wash hands and other exposed areas thoroughly after handling. Store away from heat, sparks, open flames, strong oxidizing agents and direct sunlight.

<b>Section 8. Exposure Controls/Personal Exposure</b>	
<b>Eye Protection</b>	Avoid splashing. Wear chemical-resistant safety goggles or face shield.
<b>Skin Protection</b>	Chemical resistant synthetic rubber (neoprene, butyl) gloves and other protective clothing are recommended to prevent repeated or prolonged skin contact. Clean equipment thoroughly after each use.
<b>Respiratory Protection</b>	No occupational exposure limits have been developed for this material. If personal exposure cannot be controlled by area ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH 29 CFR 1910.134 or ANSI Z88.2.
<b>Ventilation</b>	General area ventilation is acceptable. Local exhaust is recommended for confined areas. See 29 CFR 1910.146
<b>Other Precautions</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

<b>Section 9. Physical and Chemical Properties</b>			
<b>Percent Volatile Content by Volume (PBV) or Weight (PBW)</b>	N/E	<b>Specific Gravity (gm/cc)</b>	1.03
<b>VOC Content ( less water) Note 1</b>	N/E	<b>Weight per Gallon</b>	8.5 lb.
<b>Boiling Point</b>	202C (395F)	<b>Evaporation Rate</b> butyl acetate=1	0.03
<b>Vapor Pressure</b>	<0.3 mm Hg @20C	<b>Solubility in Water</b>	Complete

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Vapor Density (Air=1)	3.4 @ 15-32C	Appearance and Odor	Clear liquid, amine like odor
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<b>Section 10. Stability and Reactivity</b>	
Stability	Stable
Conditions to Avoid	Severe reducing conditions, oxidizing agents. Heat, sparks, open flame.
Incompatibility	Strong acids
Hazardous Decomposition Products	Carbon monoxide, nitrogen oxide fumes.
Hazardous Polymerization	None

<b>Section 11. Toxicological Information Acute Toxicity</b> (see Section 3. for Exposure Symptons)			
Chemical Identity	ORAL LD 50	DERMAL LD 50	Inhalation LC 50
N-Methyl-2-pyrrolidinone	4150 MG/KG BWT (Rat)	7000 MG/KG BWT (Rat)	>5 MG/L Aerosol 4 hrs (Rat)

<b>Section 12. Ecological Information</b>
This material is expected to be non-hazardous to aquatic species.

<b>Section 13 Disposal Considerations</b>
RCRA: This product, if disposed of as shipped, may be considered a hazardous waste as specified in 40 CFR 261. Dispose of in accordance with all applicable federal, state and local regulations.

<b>Section 14 Transportation Information</b>	
This product, if offered for shipment, is <b>not regulated</b> by US DOT 49 CFR Parts 171 - 180: Regulation of Hazardous Materials Transportation in Commerce.	
Proper Shipping Name	N-Methyl-2-Pyrrolidone
Classification	N/A
Identification	N/A
Packing Group	N/A
Label	N/A

<b>Section 15. Regulatory Information</b>			
<i>Regulations Governing Product:</i>			
Inventory Status: United States (TSCA) - All ingredients are on the inventory or are exempt from listing.			
SARA TITLE III			
EPCRA 311/312 Tier II Chemical Inventory Reporting: Immediate (acute)			
HMIS Rating	Health 2	Flammability 1	Chemical Reactivity 0
<i>Regulations Governing Ingredients</i>			
Chemical Name	CAS #/ Category#	CERCLA RQ	EPCRA 313 RQ EPCRA 302 RQ EHS

<b>Section 16 Other Information</b>
<u>REFERENCES</u>
CRC Press: Handbook of Chemical and Physical Constants by David R. Lide
Merck & Company: The Merck Index
Sigma-Aldrich Company: Aldrich Handbook of Fine Chemicals
Dictionary of Toxicology by Robert Lewis
US Department of Transportation, Research and Special Programs Administration: Hazardous Materials Table

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