



**MATERIAL SAFETY DATA SHEET**  
**MICROPOSIT REMOVER 1165**  
38680 4.00 US US MSDS\_US

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**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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<b>Product Code</b>	38680	
<b>Trade Name</b>	MICROPOSIT REMOVER 1165	<b>It is the same as NMP or N-METHYLPYRROLIDONE</b>
<b>Manufacturer/Supplier</b>	Shipley Company	
<b>Address</b>	455 Forest St. Marlborough, Massachusetts 01752	
<b>Phone Number</b>	(508) 481-7950	
<b>Emergency Phone Number</b>	(508) 481-7950	
<b>Chemtrec #</b>	(800) 424-9300	
<b>MSDS first issued</b>	28 October 1996	
<b>MSDS data revised</b>	4 March 1999	
<b>Prepared By:</b>	Amy C. Nichols	
<b>Local Sales Company</b>	Shipley Company, 455 Forest Street, Marlboro, MA 01752 (508-481-7950)	

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**2. COMPOSITION/INFORMATION ON THE INGREDIENTS**

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Components without CAS numbers are Trade Secret

<b>Component Name</b>	<b>CAS# / Codes</b>	<b>Concentration</b>
1-methyl-2-pyrrolidinone	872-50-4	94.00 - 95.00
Pyrrolidone Compound		5.00 - 6.00

**Synonyms:** 1-methylpyrrolidinone, 1-methyl-2-pyrrolidinone, M-pyrol,1-methylpyrrolidone, NMP, pyrol-M, N-methyl-2-pyrrolidone,N-pyrrollidinone

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**3. HAZARD IDENTIFICATION**

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<b>Main Hazards</b>	- Irritant - Combustible - Skin - Eye
<b>Routes of Entry</b>	Inhalation, ingestion, eye and skin contact, absorption.
<b>Carcinogenic Status</b>	Not considered carcinogenic by NTP, IARC and OSHA
<b>Target Organs</b>	- Skin - Eye
<b>Health Effects - Eyes</b>	Liquid or vapor may cause conjunctival irritation and transient corneal damage.
<b>Health Effects - Skin</b>	Material may cause slight irritation on prolonged or repeated contact. Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis.
<b>Health Effects - Ingestion</b>	Swallowing may have the following effects: - irritation of mouth, throat and digestive tract - nausea - vomiting

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**3. HAZARD IDENTIFICATION**

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<b>Health Effects - Inhalation</b>	Exposure to vapor may have the following effects: - irritation of nose, throat and respiratory tract
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**4. FIRST AID MEASURES**

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<b>First Aid - Eyes</b>	Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.
<b>First Aid - Skin</b>	Wash skin with water. Obtain medical attention if blistering occurs or redness persists.
<b>First Aid - Ingestion</b>	Wash out mouth with water. Obtain medical attention.
<b>First Aid - Inhalation</b>	Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.
<b>Advice to Physicians</b>	Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

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<b>Extinguishing Media</b>	Use water spray, foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.
<b>Special Fire-Fighting Procedures</b>	This product may give rise to hazardous vapors in a fire. Vapors can travel a considerable distance to a source of ignition and result in flashback.
<b>Unusual Fire &amp; Explosion Hazards</b>	Pressure may build up in closed containers with possible liberation of combustible vapors.
<b>Protective Equipment for Fire-Fighting</b>	Wear full protective clothing and self-contained breathing apparatus.

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**6. ACCIDENTAL RELEASE MEASURES**

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<b>Spill Procedures</b>	Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Finally flush area with plenty of water.
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**6. ACCIDENTAL RELEASE MEASURES**

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<b>Personal Precautions</b>	Wear appropriate protective clothing. Wear respiratory protection. Eliminate all sources of ignition.
<b>Environmental Precautions</b>	Prevent the material from entering drains or water courses.

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**7. HANDLING AND STORAGE**

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<b>Handling</b>	Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.
<b>Storage</b>	Store in original containers. Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - out of direct sunlight
<b>Other</b>	None known.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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<b>Occupational Exposure Standards</b>	
<b>1-methyl-2-pyrrolidinone</b>	An exposure limit of 25ppm is recommended. Can be absorbed through skin. An exposure limit of 75ppm is recommended. (15min)
<b>Engineering Control Measures</b>	Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.
<b>Respiratory Protection</b>	Respiratory protection if there is a risk of exposure to high vapor concentrations. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.
<b>Hand Protection</b>	Butyl rubber gloves.
<b>Eye Protection</b>	Chemical goggles.
<b>Body Protection</b>	Normal work wear.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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<b>Physical State</b>	Liquid
<b>Color</b>	Natural, slightly white

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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Odor	Mild Amine
VOC (g/l)	1030
Specific Gravity	1.03
pH	Not applicable.
Boiling Range/Point (°C/F)	202/396
Flash Point (PMCC) (°C/F)	88 / 190
Explosion Limits (%)	Lower limit 0.99
Solubility in Water	Completely soluble.
Vapor Density (Air = 1)	Heavier than air.
Evaporation Rate	Slower than ether
Vapor Pressure	1-methyl-2-pyrrolidone: 0.5 at 25 °C.

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**10. STABILITY AND REACTIVITY**

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Stability	Stable under normal conditions.
Conditions to Avoid	- High temperatures - Static discharge
Incompatibilities	- Oxidizing agents - Acids - Reducing agents
Hazardous Polymerization	Will not occur.
Hazardous Decomposition Products	- carbon monoxide - Carbon Dioxide - oxides of nitrogen

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**11. TOXICOLOGICAL INFORMATION**

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Acute Data	1-methyl-2-pyrrolidone: Dermal LD50 (rat) 8000mg/kg.
Chronic/Subchronic Data	The negative mutagenic findings together with equivocal results from long-term animal studies suggest that it is unlikely to be a carcinogen.
Genotoxicity	It was not mutagenic when tested in bacterial or mammalian systems.
Reproductive/Developmental Toxicity	Developmental effects were seen in laboratory animals only at dose levels that were maternally toxic. Experimental studies in animals have provided some evidence of embryo/fetotoxicity and birth defects only at doses producing marked maternal toxicity.
Additional Data	None known.

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**11. TOXICOLOGICAL INFORMATION**

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**12. ECOLOGICAL INFORMATION**

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<b>Mobility</b>	The product will dissolve rapidly in water. The product is poorly absorbed onto soils or sediments. The product will leach into soil.
<b>Persistence/Degradability</b>	The product is expected to be readily biodegradable.
<b>Bio-accumulation</b>	Product is not expected to bioaccumulate.
<b>Ecotoxicity</b>	The product may be harmful to aquatic organisms.

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**13. DISPOSAL CONSIDERATIONS**

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<b>Product Disposal</b>	Incineration is the recommended method of disposal. Dispose of in accordance with all applicable local and national regulations.
<b>Container Disposal</b>	Labels should not be removed from containers until they have been cleaned. Empty containers may contain hazardous residues. Dispose of containers with care.

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**14. TRANSPORT INFORMATION**

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<b>DOT Ground:</b>	Not Regulated per 49 CFR 173.150(f)(2)
<b>UN Proper Shipping Name</b>	Not Regulated
<b>UN Class</b>	Not applicable.
<b>UN Number</b>	Not applicable.
<b>UN Packaging Group</b>	Not applicable.
<b>N.O.S. 1:</b>	Not applicable.
<b>N.O.S. 2:</b>	Not applicable.
<b>Subsidiary Risks</b>	None.
<b>ADR/RID Substance Identification Number</b>	None assigned.
<b>CERCLA RQ</b>	None.
<b>Marine Pollutant</b>	No.

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**15. REGULATORY INFORMATION**

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<b>TSCA Listed</b>	All components of this product are listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) or are exempted from listing because a Low Volume Exemption has been granted in accordance with 40 CFR 723.50.
<b>TSCA Exemptions</b>	
<b>TSCA Sec.12(b) Export Notification</b>	U.S. exporters of this product are required to notify the U.S. Environmental Protection Agency (EPA) that a regulated substance(s) is leaving the U.S. market. This product contains the following substance(s) which are subject to Section 12(b) export notification: - 1-Methyl-2-pyrrolidinone (CAS# 872-50-4)
<b>WHMIS Classification</b>	D.2.B B.3
<b>MA Right To Know Law</b>	All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at the de minimus concentration have been identified in the hazardous ingredients section of the MSDS.
<b>California Proposition 65</b>	This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.
<b>SARA TITLE III-Section 311/312 Categorization (40 CFR 370)</b>	Immediate, delayed health hazard
<b>SARA TITLE III-Section 313 (40 CFR 372)</b>	This product contains a chemical which is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: (quantity present is found elsewhere on this MSDS) - 1-methyl-2-pyrrolidinone (872-50-4)

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**16. OTHER INFORMATION**

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<b>NFPA Rating- FIRE</b>	2
<b>NFPA Rating- HEALTH</b>	1
<b>NFPA Rating- REACTIVITY</b>	0
<b>NFPA Rating- SPECIAL</b>	None.
<b>Revisions Highlighted</b>	
<b>Abbreviations</b>	CAS#: Chemical Abstract Services Number ACGIH: American Conference of Governmental Industrial Hygienists OSHA: Occupational Safety and Health Administration TLV: Threshold Limit Value PEL: Permissible Exposure Limit

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**16. OTHER INFORMATION**

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STEL: Short Term Exposure Limit  
NTP: National Toxicology Program  
IARC: International Agency for Research on Cancer  
R: Risk  
S: Safety  
LD50: Lethal Dose 50%  
LC50: Lethal Concentration 50%  
BOD: Biological Oxygen Demand  
Koc: Soil Organic Carbon Partition Coefficient.  
TLm: Median Tolerance Limit  
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**Disclaimer**

The data contained herein is based on information that Shipley Company believes to be reliable, but no expressed or implied warranty is made with regard to the accuracy of such data or its suitability for a given situation. Such data relates only to the specific product described and not to such products in combination with any other product and no agent of Shipley Company is authorized to vary any of such data. Shipley Company and its agents disclaim all liability for any action taken or foregone on reliance upon such data.

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