SHIPLEY
A ROHM AND HAAS COMPANY

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

MICROPOSIT (TM) REMOVER 1165

Revision date: 08/14/2002

Supplier

Shipley Company
455 Forest Street
Marlborough, MA 01752

For non-emergency information contact: 508-481-7950

Emergency telephone number

Chemtrec	800-424-9300
Shipley emergency	508-481-7950

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	W/W
1-methyl-2- pyrrolidinone	872-50-4	94.0 - 95.0 %
Pyrrolidinone Compound		5.0 - 6.0 %

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form	liquid
Color	Natural, slightly white
Odor	Mild Amine

Hazard Summary	**CAUTION!** Combustible liquid and vapor. Causes irritation to eyes, nose, and respiratory tract. Prolonged, repeated contact with skin may cause drying, defatting, or dermatitis.

Potential Health Effects
Primary Routes of Entry: Inhalation, ingestion, eye and skin contact.

Eyes: May cause pain, transient irritation and superficial corneal effects.

Skin: Material may cause irritation.

Ingestion: Swallowing may have the following effects:
- irritation of mouth, throat and digestive tract

Inhalation: Inhalation may have the following effects:
- irritation of nose, throat and respiratory tract

Target Organs: - Eye
- Respiratory System
- Skin

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA

4. FIRST AID MEASURES

Inhalation: Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.

Skin contact: Wash out eye with plenty of water. Continue washing for at least 15 minutes. Obtain medical attention if blistering occurs or redness persists.

Eye contact: 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.

Ingestion: Wash out mouth with water. Have victim drink 1-3 glasses of water to dilute stomach contents. Induce vomiting. Obtain medical attention immediately Never administer anything by mouth if a victim is losing conciousness, is unconcious or is convulsing.

Notes to physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point	88 °C (190 °F)
Suitable extinguishing media:	Use water spray, foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.

Specific hazards during fire fighting: 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.

Special protective equipment for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Pressure may build up in closed containers with possible liberation of combustible vapors.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear appropriate protective clothing.
Wear respiratory protection.

Eliminate all sources of ignition.

Environmental precautions
Prevent the material from entering drains or water courses.
Do not discharge directly to a water source.
Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

Methods for cleaning up
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.

7. HANDLING AND STORAGE

Handling
Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.
Further information on storage conditions: Keep away from heat, sparks, flame, and other sources of ignition. Practice good personal hygiene to prevent accidental exposure.

Storage
Storage conditions: Store in original containers. Store away from sources of heat or ignition.
Storage area should be: - cool - dry - well ventilated - out of direct sunlight

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit values

Component	Regulation	Type of listing	Value
1-methyl-2- pyrrolidinone	Rohm and Haas	TWA	25 ppm
	Rohm and Haas	STEL	75 ppm
	Rohm and Haas	Absorbed via skin	

Eye protection: Chemical goggles.

Hand protection: Butyl rubber gloves. Other chemical resistant gloves may be recommended by your safety professional.

Skin and body protection: Normal work wear.

Respiratory protection: 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.

Engineering measures: Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Color	Natural, slightly white
Odor	Mild Amine
pH	Not applicable
Boiling point/range	202 °C (396 °F)
Flash point	88 °C (190 °F)

Component: **1-methyl-2- pyrrolidinone**

Vapor pressure	< 1.0 mmHg at 20 °C
Relative vapor density	Heavier than air.
Water solubility	completely soluble
Relative density	1.03
Evaporation rate	Slower than ether
VOC's	1,030 g/l

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Hazardous reactions	Stable under normal conditions.
Conditions to avoid	- High temperatures - Static discharge
Materials to avoid	- Reducing agents - Oxidizing agents - acids
Hazardous decomposition products	- carbon monoxide, - carbon dioxide, - oxides of nitrogen,
Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Component: **1-methyl-2- pyrrolidinone**
Acute oral toxicity LD50 guinea pig 1,400 mg/kg

Component: **1-methyl-2- pyrrolidinone**
Acute oral toxicity LD50 rat 3,914 mg/kg

Component: **1-methyl-2- pyrrolidinone**
Acute dermal toxicity LD50 guinea pig > 2,000 mg/kg

Component: **1-methyl-2- pyrrolidinone**

Acute dermal toxicity LD50 rabbit 8,000 mg/kg

Component: **1-methyl-2- pyrrolidinone**
Eye irritation Single application to the rabbit eye produced moderate irritation.

Component: **1-methyl-2- pyrrolidinone**
Subchronic toxicity In a 2 year inhalation study, NMP did not cause any life-shortening or carcinogenic effects in rats at 0.04 or 0.4 mg/l (10 and 100 ppm respectively).

Component: **1-methyl-2- pyrrolidinone**
Toxicity to reproduction
In experimental studies with rats and mice, NMP was embryotoxic by oral and intraperitoneal routes at very high dose levels close to the LD50.

Component: **1-methyl-2- pyrrolidinone**
Mutagenicity
Not mutagenic when tested in bacterial or mammalian systems.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

1-methyl-2- pyrrolidinone

Ecotoxicity effects	
Toxicity to fish	LC50 Bluegill sunfish 96 h 832 mg/l
Toxicity to algae	EC50 Algae 72 h >500 mg/l
Toxicity to aquatic invertebrates	EC50 Daphnia 48 h 4,897 mg/l

13. DISPOSAL CONSIDERATIONS

Environmental precautions: Prevent the material from entering drains or water courses.
Do not discharge directly to a water source.
Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

Disposal

Dispose of in accordance with all applicable local and national regulations. Incineration is the recommended method of disposal for containers. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.
Labels should not be removed from containers until they have been cleaned. Empty containers may contain hazardous residues. Dispose of containers with care.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

IMO/IMDG

Not regulated (Not dangerous for transport)

15. REGULATORY INFORMATION

SARA TITLE III: Section 311/312 Categorizations (40CFR370): Immediate health hazard, fire hazard

SARA TITLE III: Section 313 Information (40CFR372)

This product contains a chemical which is listed in Section 313 at or above de minimis concentrations.
SARA Title III Components: Methyl pyrrolidone 872-50-4

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D):

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
This product contains the following substance(s)which are subject to Section 12(b) export notification:
TSCA_12b Components: Methyl pyrrolidone 872-50-4

US. Toxic Substances Control Act (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

California (Proposition 65)

This product contains a component or components known to the state of California to cause cancer and/or reproductive harm.
Components: 1-methyl-2- pyrrolidinone 872-50-4

16. OTHER INFORMATION

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAc	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
|	Bar denotes a revision from prior MSDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Version: 1.01
Print Date: 01/05/2003
Layout 304890