

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Code	5000108
Product Name	N-Methyl Pyrrolidone
Synonyms	NMP, M-Pyrol, 1-Methyl-2-Pyrrolidinone
Trade Name	ACL-500 Electronic Grade NMP
Manufacturer/Supplier	Applied Chemical Laboratories. Inc.
Address	526 Almanor Ave. Sunnyvale, CA 94085
Phone Number	(408) 737-8880
Emergency Phone Number	(408) 737-8880
Chemtrec #	(800) 424-9300
MSDS first issued	January 7, 2008
MSDS data revised	NA
Prepared By:	Environmental, Health & Safety Department
Local Sales Company	Applied Chemical Laboratories, Inc. 526 Almanor Ave. Sunnyvale, CA 94085

2. COMPOSITION/INFORMATION ON THE INGREDIENTS

Components without CAS numbers are Trade Secret

Component Name	CAS# / Codes	Concentration
N-Methyl-2-Pyrrolidinone	872-50-4	>99%

3. HAZARD IDENTIFICATION

Main Hazards	Combustible Liquid. Irritant - Skin - Eye - Respiratory System
Routes of Entry	Inhalation, ingestion, eye and skin contact, absorption.
Carcinogenic Status	Not considered carcinogenic by NTP, IARC and OSHA
Health Effects - Eyes	Moderate to severe eye irritant, pain with blurred vision.
Health Effects - Skin	Material may cause irritation. Not a sensitizer.
Health Effects - Ingestion	May result in gastric irritation, discomfort and dizziness.
Health Effects - Inhalation	May cause respiratory tract irritation with continuous exposure to aerosol or high vapor concentrations. Harmful if inhaled or swallowed.

4. FIRST AID MEASURES

First Aid - Eyes	Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention immediately.
First Aid - Skin	Immediately flush the skin with large quantities of water, preferably under a shower. Remove contaminated clothing while flushing skin. Continue washing for at least 15 minutes. Contaminated clothing should be washed or dry-cleaned before re-use. Obtain medical attention immediately.
First Aid - Ingestion	Do not induce vomiting. Wash out mouth with water. Have victim drink 1-3 glasses of water to dilute stomach contents. Obtain medical attention immediately. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing.
First Aid - Inhalation	Remove from exposure and move to fresh air immediately. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately
Advice to Physicians	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Use water spray, alcohol foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.
Special Fire-Fighting Procedures	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.
Protective Equipment for Fire-Fighting	Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures	In case of spill, remove any sources of ignition. Keep people away. Absorb the spilled material with earth or similar inert material. Flush the spilled area with plenty of water. Prevent material from entering waterways, sewers, basements or confined areas.
Personal Precautions	Wear appropriate protective clothing. Wear respiratory protection.
Environmental Precautions	Prevent the material from entering drains or water courses. Do not discharge directly to a water source.

7. HANDLING AND STORAGE

Handling	Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Keep away from heat, sparks, flame, and other sources of ignition. Practice good personal hygiene to prevent accidental exposure.
Storage	Store in original container. Storage area should be cool dry well ventilated out of direct sunlight.
Other	None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards

Engineering Control 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.
Respiratory Protection	An organic solvent approved air purifying respirator recommended.
Hand Protection	Butyl rubber gloves. Nitrile, or other chemical resistant gloves may be recommended by your safety professional. Inspect all gloves prior to use and replace worn or damaged gloves.
Eye Protection	Chemical safety goggles. Eye bath should be present nearby.
Body Protection	Wear suitable protective clothing, gloves, boots, and aprons as necessary to prevent contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Clear to straw liquid
Odor	Slight amine odor
Specific Gravity (g/ml)	1.03 @ 20°C
pH	7.5 +/- 1
Initial Boiling Point (°C/F)	202°C
Flash Point (PMCC) (°C/F)	199°F / 93°C
Explosion Limits (%)	Not determined.
Solubility in Water	Completely soluble.
Evaporation Rate	Slower than ether.
Vapor Pressure	0.5 mmHg @ 20°C

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Severe reducing conditions. Sparks, heat, open flames.
Incompatibilities	With other material: strong reducing agents, strong oxidizing agents
Hazardous Polymerization	Will not occur.
Hazardous Decomposition Products	Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Data	Oral toxicity: Rat LD50 (main ingredient): 5130 mg/Kg Inhalation toxicity: data not available Dermal toxicity: Rabbit LD50 (main ingredient): 8000 mg/Kg.
Chronic/Subchronic Data	Skin irritation: (main ingredient) rabbit skin mild irritation. Eye irritation: Moderate irritant; no permanent damage.
Additional Data	None known.

12. ECOLOGICAL INFORMATION

Mobility	No data available.
Persistence/Degradability	The product is expected to be readily biodegradable.
Bio-accumulation	Product is not expected to bio accumulate.
Ecotoxicity	This product is not expected to be non-hazardous to aquatic species.

13. DISPOSAL CONSIDERATIONS

Product Disposal	Dispose of waste and unused material in accordance with local, state and federal regulations. 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. If additional information is required, contact Applied Chemical Labs Technical Services.
Container Disposal	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 Ground:	Not Regulated for non-bulk shipments (<119 gallons)
UN Proper Shipping Name	Combustible Liquid N.O.S. for bulk shipments >119 gallon containers
UN Class	Combustible Liquid N.O.S.
UN Number	NA 1993
UN Packaging Group	III
N.O.S. 1:	Not applicable.
N.O.S. 2:	Not applicable.
Subsidiary Risks	None.
CERCLA RQ	None.
Marine Pollutant	None.

15. REGULATORY INFORMATION

TSCA Sec.12(b) Export Notification	Toxic Substance Control Act (TSCA) Section 12(b) Export Notification (40CFR 707, Subt D) Inventory status: All ingredients of this product are listed on the TSCA inventory (See section 12(b) for the CAS numbers)
RCRA Hazard Waste No	Not Regulated.
CRCLA	No.
California Proposition 65	This product contains the following materials which the State of California has found to cause cancer, birth defects or other reproductive harm: N-Methyl-2-Pyrrolidinone CAS# 872-50-4
SARA TITLE III-Section 311/312 Categorization (40 CFR 370)	Immediate, delayed, flammability hazard.
SARA TITLE III-Section 313 (40 CFR 372)	This product contains the following chemicals which is listed in section 313 at or above deminimis concentrations. N-Methyl-2-Pyrrolidinone CAS# 872-50-4

16. OTHER INFORMATION

NFPA Rating- FIRE	1
NFPA Rating- HEALTH	2
NFPA Rating- REACTIVITY	0
NFPA Rating- SPECIAL	None.
Revisions Highlighted	N/A
Abbreviations	CAS#: Chemical Abstract Services Number ACGIH: American Conference of Governmental Industrial Hygienists

16. OTHER INFORMATION

OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
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

Disclaimer

The data contained herein is based on information that Applied Chemical Labs Inc. 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 ACLI is authorized to vary any of such data. ACLI and its agents disclaim all liability for any action taken or foregone on reliance upon such data.
