Material Safety Data Sheet

SECTION 1

Manufacturer's Name: NISSAN CHEMICAL INDUSTRIES, LTD.

Address: 7-1, 3-chome, Kanda-Nishiki-cho,
City, State, and ZIP: Chiyoda-ku, Tokyo, Japan 101

Emergency Telephone No.: 914-332-4745
Other Information Calls: 011-81-3-3296-8050

Signature of Person Responsible for Preparation (Optional):
Date Prepared: 06/10/92  Date Revised: 07/25/94

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY

Hazardous Component(s) (chemical & common name(s))
OSHA PEL  ACGIH TLV  Other Exposure Limits  % (optional)  CAS NO.
N-Methyl-2-Pyrrolidone  n.a.  n.a.  LD₅₀  4 g/kg  872-50-4
Butyl Cellosolve  50ppm  25ppm  TDL₀  195ppm/8hrs  111-76-2

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

Boiling Point: 171-204 °C  Specific Gravity (H₂O = 1) 1.02  Vapor Pressure (mmHg): 0.17 @20°C

Vapor Density (Air=1): 4.6

Solubility in Water: Soluble in any portion  Reactivity in Water: Non reactive

Appearance and odor: Slight amine odor  Melting point: < -23°C

SECTION 4 - FIRE & EXPLOSION DATA

Flash Point: 96°C  Method: Used JIS K2265 (open cell)  Flammable Limits in Air by Volume: LEL Lower 1.0%  UEL Upper < 10.6%

Auto-Ignition Temperature: 346°C  Extinguisher Method: Carbon dioxide, dry chemicals, foam, water.

Special Fire Fighting Procedures: Fire fighters should wear self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Toxic fumes (oxide of carbon and nitrogen) may be evolved upon exposure to heat or open flame.
SECTION 5 - PHYSICAL HAZARDS (REACTIVITY DATA)

Stability Unstable [ ] Conditions Stable [X] to Avoid

Incompatibility (Materials to Avoid) oxidizers

Hazardous Decomposition Products Oxide of carbon and nitrogen may be evolved when burning.

Hazardous Polymerization Will not Occur [X] CONDITIONS TO AVOID

SECTION 6 - HEALTH HAZARDS

1. Acute
   Butyl cellosolve: LD₅₀ 1480mg/Kg Rat oral 2. Chronic n.a.

Signs and Symptoms of Exposure Skin and eyes are irritated.

Medical Conditions Generally Aggravated by Exposure Neural excitation and slight change in blood index were observed (N-methyl-2-pyrrolidone)

Chemical Listed as Carcinogen or Potential Carcinogen National Toxicology Program Yes [ ] I.A.R.C. Yes [ ] OSHA Yes [ ]

Emergency and First Aid Procedures If eye contact occurs, flush well with plenty of water and get medical care.

1. Inhalation Possible
2. Eyes Under a normal handling procedure, it is considered impossible.
3. Skin Possible
4. Ingestion Under a normal handling procedure, it is considered impossible.

SECTION 7 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling and Storage Seal the container tightly and store at room temperature.

Other Precautions Keep out of fire sources. When needed to store with dry ice, seal the container tightly to prevent from the dissolving of carbon dioxide gas.

Steps to be Taken in Case Material is Released or Spilled Absorb spilled solvent with vermiculite, sand, rag or other inert absorbent and open doors for ventilation.

Waste Disposal Methods (Consult federal, state, and local regulations) Put in closed containers and dispose of as a chemical waste in accordance with local, state and federal regulations.

SECTION 8 - SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

Respiratory Protection Unnecessary
(Specify Type)

Ventilation Necessary Local Exhaust Necessary Mechanical (General) Unnecessary Special Unnecessary Other Not specified

Protective Gloves Wear protective gloves.
Eye Protection Wear safety goggles.

Other Protective Clothing or Equipment Wear protective clothing to avoid direct skin contact.

Work/Hygienic Practices Positive fresh air exhaust should be provided in a work area.

IMPORTANT Do not leave any blank spaces. If required information is unavailable, unknown, or does not apply, so indicate.