

VAN WATERS & ROGERS -- N-METHYL PYRROLIDONE
MATERIAL SAFETY DATA SHEET
NSN: 681000N072153
Manufacturer's CAGE: 0STM5
Part No. Indicator: A
Part Number/Trade Name: N-METHYL PYRROLIDONE

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General Information
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Company's Name: VAN WATERS AND ROGERS INC
Company's Street: 6100 CARILLON PT
Company's City: KIRKLAND
Company's State: WA
Company's Country: US
Company's Zip Code: 98033
Company's Emerg Ph #: 206-889-3712
Company's Info Ph #: 206-889-3712
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SMJ
Date MSDS Prepared: 15FEB95
Safety Data Review Date: 02JUN97
MSDS Serial Number: CDZQC
Hazard Characteristic Code: NK

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Ingredients/Identity Information
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Proprietary: NO
Ingredient: 2-PYRROLIDINONE, 1-METHYL-; (N-METHYLPYRROLIDONE)
Ingredient Sequence Number: 01
Percent: 99.6
NIOSH (RTECS) Number: UY5790000
CAS Number: 872-50-4
OSHA PEL: N/K (FP N)
ACGIH TLV: N/K (FP N)

Proprietary: NO
Ingredient: SUPDAT:BACK TO VAP SOURCE. FINE SPRAYS/MISTS MAY BE COMBUST @
TEMPS BELOW NORMAL FLASH POINT.
Ingredient Sequence Number: 02
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: EFTS OF OVEREXP:5 DAYS/WK FOR 4 WKS DEVELOPED EXCESS
MORTALITY, FOCAL PNEUM, BONE MARROW HYPOPLASIA & ATROPHY OF (ING 4)
Ingredient Sequence Number: 03
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 3:LYMPHOID TISS. RPTD TO BE FETOXTOXIC & TO INCR INCIDENCE
OF SKELETAL ABNORM WHEN ADMIN DERMALLY TO RATS (ING 5)
Ingredient Sequence Number: 04
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 4:DURING GESTATION (FUND. & APPL. TOX 2:73-6, 1982) AT VRY
HIGH RPTD ORAL DOSAGES (750 MG/KG), LITTERS WERE(ING 6)
Ingredient Sequence Number: 05
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 5:REDUCED IN NUMBER & INDIVIDUAL PUPS WEIGHED LESS. SOME
SKELETAL ABNORMALITIES WERE SEEN. THIS HAS ALSO (ING 7)
Ingredient Sequence Number: 06
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 6:BEEN OBSERVED IN MICE USING INTRAPERITONEAL INJECTION
(ROUTE OF ADMIN OF QUESTIONABLE SIGNIFICANCE TO (ING 8)
Ingredient Sequence Number: 07
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 7:HUMANS), ALSO @ HIGH DOSAGES WHICH ALSO CAUSE TOX EFTS
IN THE MOTHER ANIMAL. RPTD TO CAUSE ANEUPLOIDY IN (ING 9)
Ingredient Sequence Number: 08
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 8:SACCHAROMYCES, BUT IS NOT MUTAGENIC IN AMES TEST.
Ingredient Sequence Number: 09
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: FIRST AID PROC:INGEST:IF LG QTYS SWALLOWED, GIVE LUKEWARM
WATER (PINT/1/2 LITRE) IF VICTIM COMPLETELY CONSCIOUS/(ING 11)
Ingredient Sequence Number: 10
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 10:ALERT. DO NOT INDUCE VOMIT. RISK OF DMG TO LUNGS
EXCEEDS POIS RISK. OBTAIN EMER MED ATTN. NOTE TO PHYS: (ING 12)
Ingredient Sequence Number: 11
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 11:TREAT SKIN & EYE BURNS/IRRIT CONVENTIONALLY AFTER
DECONTAM. CONTINUE TO RINSE EYE W/CLEAN WATER FOR 20-30(ING 13)
Ingredient Sequence Number: 12
NIOSH (RTECS) Number: 9999999ZZ

OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 12:MINS, RETRACTING EYELIDS OFTEN. CONT OPTHALMOLOGIST
IMMED. PHYSICIAN'S DETOXIFICATION PROC:TREAT SKIN (ING 14)
Ingredient Sequence Number: 13
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 13:AND EYE BURNS/IRRITATION CONVENTIONALLY AFTER DECONTAM.
Ingredient Sequence Number: 14
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: SPILL PROC:FIREFIGHTING FOAM. RESTRICT WATER USE FOR CLEANUP.
IMPOUND, RECOVER LG LAND SPILL. SOAK UP SM SPILLS (ING 16)
Ingredient Sequence Number: 15
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 15:W/INERT SOLIDS. USE SUITABLE DISP CNTNRS. ON WATER,
MATL IS SOL & MAY FLOAT/SINK. CNTN/COLLECT RAPIDLY TO(ING 17)
Ingredient Sequence Number: 16
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 16:MINIMIZE DISPERSION. DISPERSE RESIDUE. REPORT PER
REGULATORY REQUIREMENTS.
Ingredient Sequence Number: 17
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: WASTE DISP METH:TRANSPORTERS. BURN CONCENTRATED LIQS. AVOID
FLAME-OUTS. ASSURE EMISSIONS COMPLY W/APPLIC REGS. (ING 19)
Ingredient Sequence Number: 18
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 18:DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/
POIS PLANT BIOMASS. ASSURE EFFLUENT COMPLIES (ING 20)
Ingredient Sequence Number: 19
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 19:WITH APPLICABLE REGULATIONS.

Ingredient Sequence Number: 20
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: OTHER PREC:SYS/EQUIP BEFORE MAINTENANCE/REPAIR. WEAR REC
PERSONAL PROT EQUIP. OBSERVE PREC PERTAINING TO (ING 22)
Ingredient Sequence Number: 21
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 21:CONFINED SPACE ENTRY. DO NOT TAKE INTERNALLY.
Ingredient Sequence Number: 22
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: VENT:GENERATED BELOW FLASH POINT OF HIGH BOILING LIQUIDS.
Ingredient Sequence Number: 23
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: HYGIENE PRACT:OR USING TOILET FACILITIES. PROMPTLY REMOVE
SOILED CLTHG/WASH THOROUGHLY BEFORE REUSE. EQUIP MUST (ING 25)
Ingredient Sequence Number: 24
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 24:BE CLEANED THOROUGHLY AFTER EACH USE. WASH THOROUGHLY
WITH SOAP AND WATER.
Ingredient Sequence Number: 25
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE
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Physical/Chemical Characteristics

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Appearance And Odor: CLEAR; LIQUID; AMINE-LIKE ODOR.
Boiling Point: 396F, 202C
Melting Point: -11F, -24C
Vapor Pressure (MM Hg/70 F): 0.3 @ 68F
Specific Gravity: 1.026 (H*20=1)
Evaporation Rate And Ref: NOT KNOWN
Solubility In Water: COMPLETE
pH: 7.7-8
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Fire and Explosion Hazard Data

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Flash Point: 199F, 93C
Flash Point Method: CC
Lower Explosive Limit: 1.3%
Upper Explosive Limit: 9.5%

Extinguishing Media: DRY CHEMICAL, CO*2, WATER SPRAY, FOAM FOR ALCOHOLS, FOAM. USE WATERSPRAY/WATERFOG FOR COOLING.

Special Fire Fighting Proc: NIOSH APPRVD SCBA & FULL PROT EQUIP (FP N). FIGHT FROM SAFE DIST/PROTECTED LOCATION. HEAT MAY BUILD ENOUGH PRESS TO RUPTURE CLSD CNTNRS/SPREADING FIRE/ (SUPDAT)

Unusual Fire And Expl Hazrds: WHEN HEATED ABOVE FLASH POINT, RELEASES FLAMM VAPS. WHEN MIXED W/AIR & EXPOSED TO IGNIT SOURCE, VAPS CAN BURN IN OPEN/EXPLODE IF CONFINED. VAPS MAY BE (SUPDAT)

Reactivity Data

Stability: YES

Cond To Avoid (Stability): HEAT, SPARKS, OPEN FLAME, AND OTHER IGNITION SOURCES.

Materials To Avoid: STRONG OXIDIZING AGENTS; REDUCING AGENTS.

Hazardous Decomp Products: INCOMPLETE COMBUSTION MAY PRODUCE CARBON MONOXIDE & OTHER TOXIC GASES.

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NOT RELEVANT.

Health Hazard Data

LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: YES

Route Of Entry - Ingestion: YES

Health Haz Acute And Chronic: ACUTE:EYE:MAY CAUSE MOD IRRIT, INCL BURNING SENSATION, TEARING, REDNESS/SWELL. SKIN ABSORP:EXTENSIVE/PRLNGD/RPTD EXPOS TO MATL CAN RSLT IN SIGNIFICANT ABSORP. SKIN:MAY CAUSE DELAYED IRRIT & BLISTERING. INGEST:MAY BE SLIGHT HLTH HAZ IF INGESTED IN LARGE QUANTITIES. CHRONIC:RPTD TO BE FETOTOXIC AND (EFTS OF OVEREXP)

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: NOT RELEVANT.

Signs/Symptoms Of Overexp: HLTH HAZ:TERATOGENIC BY DERMAL BUT NOT INHAL EXPOS. SPEC HLTH EFTS:MATL/ITS EMISSIONS MAY AFFECT PREGNANCY AND/OR FETAL DEVELOPMENT. HUMAN EXPERIENCE HAS DEMONSTRATED REDNESS, CRACKING & BLISTERING OF SKIN THRU RPTD/PRLNGD CONT WITH MATL. RATES EXPOS TO AEROSOL-VAP MIX OF MATL @ 1.0 MG/L(1 G/M3) FOR 6 HR/DAY, (ING 3)

Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.

Emergency/First Aid Proc: INHAL:REMOVE TO FRESH AIR IMMED. GIVE OXYG/ ARTF RESP AS NEEDED. OBTAIN EMER MED ATTN. PROMPT ACTION IS ESSNTL. EYE: IMMED RINSE W/CLEAN WATER FOR @ LST 15 MINS. RETRACT EYELIDS OFTEN. OBTAIN EMER MED ATTN. SKIN:IMMED REMOVE CONTAMD CLTHG. WASH THOROUGHLY W/MILD SOAP & WATER. FLUSH W/LUKEWARM WATER FOR 15 MINS. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MED ATTN IF ILL EFTS/IRRIT DEVELOPS.(ING 10)

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: COMBUST LIQ. RELEASE MAY IGNITE & MAY CAUSE FIRE/EXPLO. LIQ/VAP MAY IGNITE. EVAC/LIMIT ACCESS. EQUIP RESPONDERS W/ PROPER PROT. EXTING ALL IGNIT SOURCES. STOP RELEASE. PVNT FLOW TO SEWER/ PUBLIC WATERS. NOTIFY FIRE & ENVIR AUTH. BLANKET WITH (ING 15)

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Method: DISP MUST BE I/A/W FED, ST & LOC REGS (FP N).

CONTAMD PROD/SOIL/WATER MAY BE U.S. RCRA/U.S. OSHA HAZ WASTE DUE TO POTNTL COMBUSTIBILITY. (SEE 40 U.S. CODE OF FED REGS (CFR) 261 & 29 CFR 1910). LANDFILL SOLIDS @ PERMITTED SITES. USE REGISTERED(ING 18)

Precautions-Handling/Storing: HNDL EMPTY CNTNRS W/CARE-RESIDUE MAY BE

COMBUST & BURN IF EXPOS TO HEAT/SPKS/OPEN FLAME. KEEP CNTNR TIGHTLY CLSD WHEN NOT IN USE.

Other Precautions: IN ADDN TO FIRE/EXPLO HAZ. RESIDUAL VAP & LIQ MAY ALSO BE TOXIC. STORE AWAY FROM HEAT, SPKS, OPEN FLAMES, STRONG OXIDIZING AGENTS & DIRECT SUNLIGHT. KEEP OUT OF REACH OF CHILDREN. DECONTAM PROC:ISOLATE, VENT, DRAIN, WASH & PURGE (ING 21)

Control Measures

Respiratory Protection: WHERE EXPOS THRU INHAL MAY OCCUR FROM USE, NIOSH SAFETY & HEALTH ADMINISTRATION APPROVED RESPIRATORY PROTECTION EQUIPMENT IS RECOMMENDED. NIOSH APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN (FP N).

Ventilation: AT ELEVATED TEMPS, SPEC VENT MAY BE REQD EVEN IF FLASH POINT HAS NOT BEEN EXCEEDED. FLAMM MISTS/AEROSOLS CAN BE(ING 23)

Protective Gloves: IMPERVIOUS GLOVES (FP N).

Eye Protection: ANSI APPRVD CHEM WORKERS GOGGLES (FP N).

Other Protective Equipment: ANSI APPRVD EYE WASH & DELUGE SHOWER (FP N).

APRON, SLEEVES, BOOTS, HEAD & FACE PROT SHOULD BE WORN.

Work Hygienic Practices: CONT LENSES MUST NOT BE WORN. USE GOOD PERSON

HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMKNG, (ING 24)

Suppl. Safety & Health Data: FIRE FIGHT PROC:INCR RISK OF BURN/INJURIES.

AVOID FROTHING/STEAM EXPLO. BURNING LIQ MAY FLOAT ON WATER. ALTHOUGH WATER SOL, MAY NOT BE PRACTICAL TO EXTING FIRE BY WATER DILUTION. NOTIFY AUTH IMMED IF LIQ ENTERS SEWER/PUBLIC WATERS. FIRE EXPLO:HVR/AIR. MAY TRAVEL LONG DIST ALONG GROUND BEFORE IGNITING & FLASHING (ING 2)

Transportation Data

Disposal Data

Label Data

Label Required: YES

Technical Review Date: 02JUN97

Label Date: 02JUN97

Label Status: G

Common Name: N-METHYL PYRROLIDONE

Chronic Hazard: YES

Signal Word: WARNING!

Acute Health Hazard-Slight: X

Contact Hazard-Moderate: X

Fire Hazard-Slight: X

Reactivity Hazard-None: X

Special Hazard Precautions: ACUTE:EYE:MAY CAUSE MODERATE IRRITATION, EXTENSIVE OR PROLONGED OR REPEATED EXPOSURE TO MATERIAL CAN RESULT IN SIGNIFICANT ABSORPTION. SKIN:MAY CAUSE DELAYED IRRITATION AND BLISTERING. INGEST:MAY BE SLIGHT HEALTH HAZARD IF INGESTED IN LARGE QUANTITIES.

CHRONIC:REPEATED TO BE FETOTOXIC AND INCREASE INCIDENCE OF SKELETAL ABNORMALITIES IN LABORATORY ANIMALS.

Protect Eye: Y

Protect Skin: Y

Protect Respiratory: Y

Label Name: VAN WATERS AND ROGERS INC

Label Street: 6100 CARILLON PT

Label City: KIRKLAND

Label State: WA

Label Zip Code: 98033

Label Country: US

Label Emergency Number: 206-889-3712