

MATERIAL SAFETY DATA SHEET

KURARAY AMERICA, INC.
101 EAST 52nd STREET
NEW YORK, NY 10022 USA

MOWIOL 32-88
VERSION: 02
REVISED DATE: 01/01/2006



FOR CHEMICAL EMERGENCY CALL-DAY OR NIGHT:
1-212-986-2230

For MSDS Info: 212-986-2230
KURARAY AMERICA, INC.: 212-986-2230

----- H M I S -----
HEALTH 1
FLAMMABILITY 1
REACTIVITY 0
PERSONAL PROTECTION F

SECTION 01 - PRODUCT IDENTIFICATION

TRADE NAME: MOWIOL 32-88
VERSION NUMBER: 01
ALPHA CODE: NOT AVAILABLE
CAS NUMBER: 25213-24-5
SYNONYMS: ACETIC ACID ETHENYL ESTER, POLYMER WITH ETHENOL;
VINYL ALCOHOL - VINYL ACETATE COPOLYMER
CHEMICAL FAMILY: POLYVINYL ALCOHOL
FORMULA: (C4H6O2.C2H4O)X
PRIMARY PRODUCT USE: ADDITIVE FOR USE IN ADHESIVES, PAINTS, LACQUERS, PRINTING INKS

SECTION 02 - COMPOSITION INFORMATION ON HAZARDOUS INGREDIENTS

COMPONENT	CAS NO.	WT.%	PEL/TLV
METHANOL	67-56-1	3	ACGIH TWA SKIN: 200 PPM; STEL: 250 PPM; OSHA: 200 PPM SKIN
LD50(ORAL)(RAT) - 5628 MG/KG			
LC50(INHALATION)(RAT)(4HR)-64000 PPM			

SECTION 03 - HAZARDS IDENTIFICATION

(REFER TO SECTION 11 FOR ADDITIONAL INFORMATION)

EXPECTED ROUTE OF ENTRY:

- SKIN CONTACT : X
- SKIN ABSORPTION : X
- EYE CONTACT : X
- INHALATION : X
- INGESTION : X

EFFECTS OF EXPOSURE:

METHANOL:

POISONING IS USUALLY CAUSED BY INGESTION. POISONING BY INHALATION OF VAPORS IS UNCOMMON BUT CAN OCCUR AT EXTREME LEVELS OF EXPOSURE. INTOXICATION BY SKIN ABSORPTION IS UNLIKELY UNLESS PROLONGED CONTACT OCCURS WITH INJURED SKIN. ACUTE SYSTEMIC TOXICITY IS MANIFESTED IN ACIDOSIS AND INJURY TO THE OPTIC NERVE. ONSET OF SYMPTOMS MAY BE DELAYED AS LONG AS 30 HOURS. A LATENT PERIOD OF 12-18 HOURS IS COMMON. MILD INTOXICATION MAY BE ASSOCIATED WITH NON-SPECIFIC HEADACHE, FATIGUE, NAUSEA AND BLURRING OF VISION, USUALLY REVERSIBLE. MODERATE INTOXICATION MAY PRODUCE SEVERE HEADACHE, DIZZINESS, NAUSEA, VOMITING, ABDOMINAL OR LUMBAR PAIN AND DEPRESSION OF THE CENTRAL NERVOUS SYSTEM. BLURRING OR LOSS OF VISION MAY BE TEMPORARY TO PERMANENT AND GENERALLY FOLLOWS LATENT PERIODS OF TWO TO SIX DAYS. IN SEVERE INTOXICATION, THESE FINDINGS ARE ACCENTUATED AND THERE MAY BE SHOCK, COMA AND HYPEREMIA OF THE OPTIC DISC WITH BLURRING OF THE DISC MARGINS. ACIDOSIS IS A PROMINENT OBSERVATION. DEATH HAS BEEN REPORTED IN ABOUT 25% OF PATIENTS WITH SEVERE POISONING (CARBON DIOXIDE COMBINING POWER LESS THAN 20 MEG/L). VISUAL DISTURBANCES, THE MOST DAMAGING ASPECT OF MOST CASES OF INTOXICATION, MAY DEVELOP PROMPTLY WITH LITTLE WARNING. THE LOSS OF ACUITY MAY BE ACCOMPANIED BY THE PERCEPTION OF SPOTS OR A GREY MIST. CHANGES IN COLOR PERCEPTION, SCOTOMATIA, PHOTOPHOBIA OR TENDERNESS OF THE EYES.

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PROGNOSIS FOR IMPROVEMENT OF VISION IS POOR IF CHANGES PERSIST FOR 6 DAYS. CHRONIC POISONING FROM INHALATION HAS BEEN DESCRIBED AS SHOWING VISUAL IMPAIRMENT WITH BLURRING, LOSS OF ACUITY, CONTRACTION OF FIELDS AND SOMETIMES TOTAL BLINDNESS. THIS CONDITION IS BELIEVED TO BE EXCEEDINGLY RARE AND NOT WELL DOCUMENTED. LIQUID AND VAPORS MAY BE IRRITATING TO THE SKIN AND MUCOUS MEMBRANES. MAY HAVE A DEFATTING ACTION UPON THE SKIN AND DRYNESS AND VULNERABILITY TO INFECTION MAY RESULT.

KNOWN EFFECTS ON OTHER ILLNESSES:

PERSONS WITH PRE-EXISTING EYE OR SKIN DISORDERS OR IMPAIRED PULMONARY FUNCTION MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS PRODUCT.

LISTED CARCINOGEN:

NONE : X
OSHA :
NTP :
IARC :
OTHER :

SECTION 04 - FIRST AID MEASURES

FIRST AID FOR EYES:

IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE UPPER AND LOWER EYELIDS. SEEK PROMPT MEDICAL ATTENTION IF REDNESS OR IRRITATION OCCURS.

FIRST AID FOR SKIN:

WASH THOROUGHLY WITH SOAP AND WATER FOR 15 MINUTES. IF SKIN IRRITATION OCCURS, SEEK MEDICAL ATTENTION.

FIRST AID FOR INHALATION:

REMOVE SUBJECT TO FRESH AIR. SEEK MEDICAL AID IF LUNG IRRITATION PERSISTS OR IF BREATHING BECOMES DIFFICULT.

FIRST AID FOR INGESTION:

DO NOT INDUCE VOMITING. GET IMMEDIATE MEDICAL HELP.

NOTE TO PHYSICIAN:

NONE KNOWN

SECTION 05 - FIRE FIGHTING MEASURES

FLASH POINT (°F) : > 200

FLAMMABLE LIMITS:

LEL: UNKNOWN
UEL: UNKNOWN

AUTOIGNITION TEMPERATURE (°F): UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS:

THERMAL DECOMPOSITION MAY PRODUCE OXIDES OF CARBON.

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EXTINGUISHING MEDIA:

WATER: X
ALCOHOL FOAM: X
CO2: X
DRY CHEMICAL: X
WATER/FOG SPRAY: X
NO EXTINGUISHING MEDIA:

SPECIAL FIRE FIGHTING PROCEDURES:

EXERCISE CAUTION WHEN FIGHTING ANY CHEMICAL FIRE. USE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

ORGANIC DUSTS HAVE POTENTIAL TO BE EXPLOSIVE WITH STATIC SPARK OR FLAME INITIATION. MAINTAIN GOOD HOUSEKEEPING FOR CONTROL OF DUST. GROUND ALL CONTAINERS WHEN TRANSFERRING TO AVOID STATIC CHARGES.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

WEARING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT, CONTAIN SPILL, COLLECT ONTO INERT ABSORBENT. PLACE IN SUITABLE CONTAINER. PICK UP DRY – FORMS SLIPPERY SURFACE WITH WATER. DO NOT ALLOW TO CONTAMINATE WATER SOURCES, SEWERS OR SOIL.

SECTION 07 - HANDLING AND STORAGE

HANDLING AND STORAGE INFORMATION:

AVOID DUST FORMATION. IN CLOSED CONTAINERS, DUE TO THE DEVELOPMENT OF HEAT, VAPORS FROM METHANOL AND METHYL ACETATE COULD COLLECT IN THE HEADSPACE OF THE CONTAINERS THEREFORE KEEP CONTAINERS CLOSED AND AWAY FROM OPEN FIRES. LEAD OFF ELECTROSTATIC CHARGES.

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

IF AIRBORNE CONCENTRATIONS POSE A HEALTH HAZARD, BECOME IRRITATING, OR EXCEED RECOMMENDED LIMITS, USE A NIOSH APPROVED RESPIRATOR IN ACCORDANCE WITH OSHA RESPIRATORY PROTECTION REQUIREMENTS UNDER 29 CFR 1910.134.

PROTECTIVE GLOVES:

RUBBER OR PLASTIC

EYE PROTECTION:

SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE EQUIPMENT:

CLOTHING SUITABLE TO PREVENT SKIN CONTACT.

VENTILATION:

WORK AREA MUST BE WELL VENTILATED TO MAINTAIN DUST CONCENTRATION BELOW TLV. LOCAL EXHAUST VENTILATION IS REQUIRED.

EXPOSURE LIMITS:

NONE ON PRODUCT

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IDLH (IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONCENTRATION):
NOT DETERMINED

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: WHITE TO PALE YELLOW, ODORLESS, POWDER TO FINE GRANULES
ODOR THRESHOLD: NOT AVAILABLE
PH (4 % IN WATER): 4.5 - 7
SOLUBILITY IN WATER: SOLUBLE
SPECIFIC GRAVITY: 1.25-1.35 @ 68 F (20 C)
BOILING POINT (°F): NOT AVAILABLE
MELTING POINT (°F): NOT AVAILABLE
FREEZING POINT (°F): NOT AVAILABLE
VAPOR PRESSURE(MM HG): NOT AVAILABLE
VAPOR DENSITY (AIR=1): NOT AVAILABLE
EVAPORATION RATE: NOT AVAILABLE
LOSS ON DRYING(%): NOT AVAILABLE
VOC (EPA METHOD 24/24A): NOT AVAILABLE
OCTANOL/WATER PARTITION COEFFICIENT:

OTHER PHYSICAL AND CHEMICAL PROPERTIES:

DENSITY: APPROX. 1.3 G/CM3 @ 68 F (20 C)
BULK DENSITY: 400-600 KG/M3
DECOMPOSITION TEMPERATURE: 160° C

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: STABLE
CONDITIONS TO AVOID: NONE

HAZARDOUS POLYMERIZATION WILL NOT OCCUR
CONDITIONS TO AVOID: NONE KNOWN

INCOMPATIBILITY: STRONG OXIDIZING AGENTS

SECTION 11 - TOXICOLOGICAL INFORMATION

LD50 (ORAL-RAT): UNKNOWN MG/KG BODY WEIGHT
DERMAL IRRITATION-RABBIT: NOT AVAILABLE
EYE IRRITATION-RABBIT: NOT AVAILABLE

OTHER TOXICOLOGICAL VALUES:

BASED ON SIMILAR PRODUCT TESTING THIS PRODUCT IS EXPECTED TO BE NON-IRRITATING TO SKIN AND EYES AND HAVE A ORAL (RAT) LD50 >2000 MG/KG.

SECTION 12 - ECOLOGICAL INFORMATION

BIOLOGICAL ELIMINATION:
70 % ANALYSIS: 70 D METHOD: OECD NO. 301 A

AQUATIC TOXICITY:

SPECIES: ZEBRA FISH LC 50: > 5000 MG/L TIME: 96 H METHOD: OECD NO. 203

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BACTERIAL INHIBITION:

NO INHIBITION (MG/L): NOT DETERMINED
50% INHIBITION (MG/L): NOT DETERMINED

BIOCHEMICAL OXYGEN DEMAND(BOD5-MG/L): NOT AVAILABLE
CHEMICAL OXYGEN DEMAND(COD-MG/L): APPROX. 1600 MG/G

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL INFORMATION:

DISPOSAL OF WASTE PRODUCT MAY BE SUBJECT TO FEDERAL, STATE, AND LOCAL REGULATIONS. REFER TO PART 261 OF 40 CFR FOR THE APPLICABILITY OF FEDERAL REGULATIONS. DISPOSAL OF THIS MATERIAL MUST BE IN A MANNER COMPLIANT WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

RCRA HAZARDOUS WASTE: NO - NOT AS SOLD.

RCRA #: NONE

FOLLOW ALL LOCAL, STATE, AND FEDERAL REGULATIONS

SECTION 14 - TRANSPORT INFORMATION

DOT REGULATED: NO

HAZARD CLASSIFICATION: NOT REGULATED

SHIPPING NAME: CHEMICALS N.O.I.

DOT REGULATED BULK ONLY: NO

CANADIAN TRANSPORT REGULATION: NOT DETERMINED

INTERNATIONAL AIR TRANSPORTATION REGULATIONS: NOT REGULATED

INTERNATIONAL MARITIME DANGEROUS GOODS REGULATION: NOT DETERMINED

SECTION 15 - REGULATORY INFORMATION

TSCA: WE CERTIFY THAT ALL COMPONENTS OF THIS PRODUCT ARE REGISTERED UNDER REGULATIONS OF THE TOXIC SUBSTANCES CONTROL ACT.

SARA (SECTION 311/312):

REACTIVE HAZARD: N
PRESSURE HAZARD: N
FIRE HAZARD: N
IMMEDIATE/ACUTE: Y
DELAYED/CHRONIC: Y

SARA (SECTION 302):

CONTAINS AN EXTREMELY HAZARDOUS SUBSTANCE: N

SARA (SECTION 313 - TOXIC CHEMICAL):

THIS PRODUCT CONTAINS TOXIC CHEMICAL(S) SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND 40 CFR 372. ANY SUCH TOXIC CHEMICAL(S) ARE SHOWN IN SECTION 02 OF THIS MSDS. THIS INFORMATION MUST BE INCLUDED IN ALL MSDS'S THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL.

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CLEAN WATER ACT - PRIORITY POLLUTANTS:
CONTAINS NO KNOWN PRIORITY POLLUTANTS AT CONCENTRATIONS GREATER THAN 0.1%.

CLEAN AIR ACT - VOLATILE ORGANIC COMPOUNDS:
VOC (EPA METHOD 24/24A) : NOT AVAILABLE
LOSS ON DRYING (%) : NOT AVAILABLE

CERCLA REGULATED COMPONENTS (AS LISTED IN SECTION 2):

COMPONENT	CAS NO.	WT.%	RQ(LB)
METHANOL	67-56-1	3	5000

RCRA HAZARDOUS WASTE: NO - NOT AS SOLD.
RCRA #: NONE

FDA: SUBJECT TO LIMITATIONS, THIS PRODUCT MAY BE USED IN COMPLIANCE WITH THE FEDERAL FOOD, DRUG AND COSMETIC ACT AND ALL APPLICABLE FOOD ADDITIVE REGULATIONS.
INCLUDING: 21 CFR 175.105, 175.300, 176.170, 176.180, 177.1670

USDA: THIS PRODUCT IS NOT REGISTERED WITH THE USDA

CEPA: LISTED AS PRIORITY SUBSTANCE: NOT DETERMINED
LISTED AS TOXIC SUBSTANCE: NOT DETERMINED
EXPORT IS NOTIFIABLE: NOT DETERMINED
LISTED ON DSL: YES
LISTED ON NDSL: NO
CEPA STATUS: PRODUCT NOT YET EVALUATED

WHMIS: NOT EVALUATED

SECTION 16 - OTHER INFORMATION

OTHER PRECAUTIONS:
OBSERVE ALL NECESSARY PRECAUTIONS FOR HANDLING POWDERS AS FINE POWDER MAY PRESENT DUST EXPLOSION HAZARD.
ACGIH THRESHOLD LIMIT VALUES (TLV) FOR PARTICULATE MATTER:
INHALABLE PARTICULATE = 10 MG/M3 / RESPIRABLE PARTICULATE = 3 MG/M3
OSHA PERMISSIBLE EXPOSURE LIMIT (PEL) FOR PARTICULATE MATTER:
TOTAL DUST = 15 MG/M3 / RESPIRABLE FRACTION = 5 MG/M3

STATE REGULATORY INFORMATION:

PENNSYLVANIA: AS NOTED PER SECTION 2.

MASSACHUSETTS: ANY COMPONENT OF THIS PRODUCT WHICH IS A HAZARDOUS CHEMICAL AS LISTED IN THE MASSACHUSETTS SUBSTANCE LIST IS SHOWN ABOVE IN SECTION 2 OF THIS MSDS. NON-HAZARDOUS COMPONENTS ARE BEING WITHHELD AS TRADE SECRET INFORMATION.

LABEL INFORMATION:

LABEL HAZARDS:
WARNING!
MAY BE HARMFUL TO THE CENTRAL NERVOUS SYSTEM AND LIVER IF INHALED, SWALLOWED OR ABSORBED THROUGH THE SKIN; SKIN AND EYE IRRITANT.

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LABEL PRECAUTIONS:

AVOID CONTACT WITH SKIN, EYES AND CLOTHING. DO NOT SWALLOW. USE WITH ADEQUATE VENTILATION AND/OR APPROVED RESPIRATORY PROTECTION. KEEP CONTAINER CLOSED WHEN NOT IN USE. WASH THOROUGHLY AFTER HANDLING.

FIRST AID

EYE CONTACT: IMMEDIATELY FLUSH EYES WITH WATER FOR 15 MINUTES, HOLDING EYELIDS OPEN. SEEK MEDICAL ATTENTION IF IRRITATION CONTINUES.

SKIN CONTACT: WASH THOROUGHLY WITH SOAP AND WATER. SEEK MEDICAL ATTENTION IF IRRITATION CONTINUES.

INGESTION: SEEK PROMPT MEDICAL ATTENTION.

INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN, SEEK MEDICAL ATTENTION IF IRRITATION CONTINUES.

IN ACCORDANCE WITH GOOD PRACTICES OF PERSONAL CLEANLINESS AND HYGIENE, HANDLE WITH DUE CARE AND AVOID UNNECESSARY CONTACT WITH THIS PRODUCT.

THIS INFORMATION IS BEING SUPPLIED TO YOU UNDER OSHA "RIGHT TO KNOW" REGULATION 29 CFR 1910.1200 AND IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE TRUE AND ACCURATE.

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