



MATERIAL SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: Mowiol, fully saponified

Synonyms: 4-98, 6-98, 10-98, 20-98, 56-98, 15-99, 28-99, 30-98, 4-98 LA, 28-99 LA, 56-98 LA

Manufacturer Name:

Kuraray America, Inc.
2625 Bay Area Blvd, Suite 300
Houston, TX 77058-1551
Tel: +001-800-423-9762

Emergency Telephone:

+001-800-423-9762

Intended Use: Additive. Adhesive. Auxiliary.
Binder. Coatings. Protective Colloid/Dispersing
Agent. Raw Material

Contact Person:

For MSDS Info: +001-800-423-9762

2 HAZARDS IDENTIFICATION

Emergency Overview

Physical State: Powder or granules

Color: White

Odor: Odorless

DANGER!

May be fatal if swallowed. Harmful if absorbed through skin. Causes skin and eye irritation.

Potential Health Effects

Inhalation: Dust may irritate throat and respiratory system and cause coughing.

Eye Contact: Exposed individuals may experience eye tearing, redness, and discomfort.

Skin Contact: Harmful if absorbed through skin. Prolonged contact may cause dryness of the skin.

Ingestion: May be fatal if swallowed.

Target Organ(s): | Eye | Skin | Liver | Central nervous system.

Potential Physical / Chemical Effects: Fine particles may form explosive mixtures with air.

OSHA Regulatory Status:

Environment: The product is not expected to be hazardous to the environment.

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| 3 | COMPOSITION / INFORMATION ON INGREDIENTS |
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| Chemical Name | CAS-No. | Concentration* |
|--------------------------------------|-----------|----------------|
| †Polyvinyl alcohol, fully saponified | 9002-89-5 | > 93% |
| †Methanol | 67-56-1 | < 3% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

† This chemical is hazardous according to OSHA/WHMIS criteria.

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| 4 | FIRST AID MEASURES |
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Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. If irritation occurs, get medical assistance.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get immediate medical attention.

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| 5 | FIRE-FIGHTING MEASURES |
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Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable Extinguishing Media: None.

Special Fire Fighting Procedures: Use standard firefighting procedures and consider the hazards of other involved materials.

Unusual Fire & Explosion Hazards: The product may form dust and can accumulate electrostatic charges, which may cause an electrical spark (ignition source). Use proper grounding procedures.

Hazardous Combustion Products: Carbon Oxides

Protective Measures: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Flammability Class: NFPA Rating Fire = 1. Materials that must be preheated before ignition can occur. Materials that must be preheated before ignition can occur.

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| 6 | ACCIDENTAL RELEASE MEASURES |
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Personal Precautions: Avoid inhalation of dust and contact with skin and eyes. Wear appropriate personal protective equipment. For personal protection, see section 8 of the MSDS.

Spill Cleanup Methods: Avoid dust formation. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. Vacuums used for this purpose should be equipped with HEPA filters. Do not use compressed air when cleaning. For waste disposal, see section 13 of the MSDS.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

7 HANDLING AND STORAGE

Handling: Use work methods which minimize dust production. Avoid inhalation of dust and contact with skin and eyes. Periodically clean work and storage areas to prevent dust accumulation. Take precautionary measures against static discharges.

Storage: Keep container tightly closed. Store in cool, dry place.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

| Chemical Name | Source | Type | Exposure Limits | Notes |
|---|------------------|------|-------------------------------|-------|
| Methanol | US. ACGIH TLV | STEL | 250 ppm | Skin |
| Methanol | US. ACGIH TLV | TWA | 200 ppm | Skin |
| Methanol | US. NIOSH Guide | IDLH | 6000 ppm | |
| Methanol | US. OSHA Z-1 PEL | TWA | 200 ppm 260 mg/m ³ | |
| Polyvinyl alcohol, fully saponified (Inhalable particles.) | US. ACGIH TLV | TWA | 10 mg/m ³ | |
| Polyvinyl alcohol, fully saponified (Respirable particles.) | US. ACGIH TLV | TWA | 3 mg/m ³ | |

Engineering Controls: Observe occupational exposure limits and minimize the risk of inhalation of dust.

Respiratory Protection: Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure air supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Eye Protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Rubber or plastic. Wear chemical-resistant gloves. Contact glove manufacturer for specific information.

Skin Protection: Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective

equipment to remove contaminants.

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| 9 | PHYSICAL AND CHEMICAL PROPERTIES |
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Color: White
Odor: Odorless
Odor Threshold: No data available.
Physical State: Powder or granules
pH: 4.5 - 7
Melting Point: No data available.
Freezing Point: No data available.
Boiling Point: Not applicable.
Flash Point: >93°C (200°F)
Evaporation Rate: No data available.
Flammability Limit - Upper (%): No data available.
Flammability Limit - Lower (%): No data available.
Vapor Pressure: No data available.
Vapor Density (Air=1): No data available.
Specific Gravity: 1.25 - 1.35 (20°C)
Solubility in Water: Soluble
Solubility (Other): No data available.
Partition Coefficient (n-Octanol/water): No data available.
Autoignition Temperature: No data available.
Decomposition Temperature: 160°C (320°F)
Bulk Density: 400 kg/m³ - 600 kg/m³
Percent Volatile: <5 %w/w

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| 10 | STABILITY AND REACTIVITY |
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Stability: This product is stable under expected conditions of use.

Conditions to Avoid: None known.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products:

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| At Elevated Temperatures: | Carbon Oxides |
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Possibility of Hazardous Reactions: Will not occur.

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| 11 | TOXICOLOGICAL INFORMATION |
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Specified Substance(s)

Acute Toxicity:

| Chemical Name | Test Results |
|-------------------------------------|---|
| Polyvinyl alcohol, fully saponified | Oral LD50 (Rat): > 20000 mg/kg |
| Methanol | Dermal LD50 (Rabbit): 15800 mg/kg |
| Methanol | Inhalation LC50 (4 hour(s), Rat): 64000 ppm (v) |
| Methanol | Oral LD50 (Rat): 5628 mg/kg |

Chronic Toxicity: Methanol: Human exposure to methanol may result in illness, systemic poisoning, blindness, optic nerve damage and perhaps death, after being ingested, absorbed through the skin or inhaled. Death due to cardiac or respiratory failure has been reported in some cases from consumption of as little as 30 mls.

Listed Carcinogens: None.

| Chemical Name | IARC | NTP | OSHA | ACGIH |
|-------------------------------------|------|------------|------------|------------|
| Polyvinyl alcohol, fully saponified | 3 | Not Listed | Not Listed | Not Listed |

IARC: 1 = Carcinogenic to Humans; 2A = Probably Carcinogenic to Humans; 2B = Possibly Carcinogenic to Humans; 3 = Not classifiable as to carcinogenicity to humans; 4 = Probably not carcinogenic to humans; Not listed = Not evaluated by IARC.

ACGIH: A1 = Confirmed Human Carcinogen; A2 = Suspected Human Carcinogen; A3 = Confirmed Animal Carcinogen; A4 = Not classifiable as a human carcinogen; A5 = Not suspected to be a human carcinogen; Not listed = Not evaluated by ACGIH.

Product Information

Acute Toxicity:

Test Results:

Other Acute: May be fatal if swallowed. Harmful if absorbed through skin. Causes skin and eye irritation.

Chronic Toxicity: Frequent inhalation of fume/dust over a long period of time increases the risk of developing lung diseases.

12 ECOLOGICAL INFORMATION

Ecotoxicity: The product is not expected to be hazardous to the environment.

Specified Substance(s)

| Chemical Name | Test |
|---------------|--|
| Methanol | EC50 (48 hour(s), Daphnia): 24500 mg/l |

Product

LC50 (96 hour(s), Zebra Fish): >5000 mg/l

Mobility: The product is water soluble and may spread in water systems.

Persistence and Degradability: Expected to be readily biodegradable.

Bioaccumulation Potential: No data available on bioaccumulation.

13 DISPOSAL CONSIDERATIONS

General Information: Dispose of waste and residues in accordance with local authority requirements.

Disposal Methods: Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Container: Since emptied containers retain product residue, follow label warnings even after container is emptied.

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| 14 | TRANSPORT INFORMATION |
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DOT Not regulated.**TDG** Not regulated.**IATA** Not regulated.**IMDG** Not regulated.

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| 15 | REGULATORY INFORMATION |
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Canadian Controlled Products Regulations: This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS Classification: D1A, D1B, D2B**Mexican Dangerous Statement:** This product is dangerous according to Mexican regulations.**Inventory Status**

This product or all components are listed or exempt from listing on the following inventory: TSCA, DSL

US Regulations**CERCLA Hazardous Substance List (40 CFR 302.4):**

| Chemical Name | RQ |
|---------------|----------|
| Methanol | 5000 lbs |

SARA Title III**Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A):****Section 311/312 (40 CFR 370):**

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

Section 313 Toxic Release Inventory (40 CFR 372):

| Chemical Name | CAS-No. | Reporting threshold for other users | Reporting threshold for manufacturing and processing |
|---------------|---------|-------------------------------------|--|
| Methanol | 67-56-1 | 10000 lbs | 25000 lbs |

For reporting purposes: the De Minimis Concentration for a toxic chemical in a mixture is 0.1% for carcinogens as defined in 29 CFR 1910.1200(d)(4) or 1% for others.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):****Drug Enforcement Act:****TSCA**

TSCA Section 4(a) Final Test Rules & Testing Consent Orders:**TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs) (40CFR 721, Subpt. E):****TSCA Section 5(e) PMN-Substance Consent Orders:****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):****State Regulations****California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):****Massachusetts Right-To-Know List:** Methanol**Michigan Critical Materials List (Michigan Natural Resources and Environmental Protection Act (Act. 451 of 1994)):****Minnesota Hazardous Substances List:** Methanol**New Jersey Right-To-Know List:** Methanol**Pennsylvania Right-To-Know List:** Methanol**Rhode Island Right-To-Know List:** Methanol**16 OTHER INFORMATION****HAZARD RATINGS**

| | Health Hazard | Fire Hazard | Instability | Special Hazard |
|-------------|----------------------|--------------------|--------------------|-----------------------|
| NFPA | 1 | 1 | 0 | NONE |

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

NFPA Label colored diamond code: Blue - Health; Red - Flammability; Yellow - Instability; White - Special Hazards

| | Health Hazard | Flammability | Physical Hazard | Personal Protection |
|-------------|----------------------|---------------------|------------------------|----------------------------|
| HMIS | 1* | 1 | 0 | F |

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe *- Chronic Health Effect

Personal Protection codes: F - Safety Glasses, Gloves, Apron, Dust Respirator

HMIS Label colored bar code: Blue - Health; Red - Flammability; Orange - Physical Hazards; White - Special

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