

Material Safety Data Sheet

MES Limited Microfilm Developer

Section 1 - Chemical Product and Company Identification

MSDS Name: MES Limited Microfilm Developer

Company Identification:

MES Limited
200 Amber Street
Markham, ON L3R 3J8

For information, call: (905) 475-9263

Section 2 – Hazardous Ingredients

CAS#	Chemical Name	Percent
7732-18-5	Water	>88%
123-31-9	Hydroquinone	<1%
7757-83-7	Sodium Sulfite	4.7%
6132-02-01	Sodium Carbonate	3.5%
7631-90-5	Sodium Hydroxide	<1%

Hazard Symbols: XI

Risk Phrases: 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

MAY BE HARMFUL IF SWALLOWED

HMIS Hazard Ratings:

Health - 2, Flammability - 0, Reactivity - 0, Personal Protection - C

NFPA Hazard Ratings:

Health - 1, Flammability - 0, Reactivity (Stability) – 0

NOTE: HMIS and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. The personal protection index is only intended for general guidance on personal protection equipment (PPE) that is suitable for the potential hazards of the material.

PPE (e.g., respirators) may not be needed if engineering controls (e.g., local ventilation) are adequate. An asterisk (*), in the HMIS health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

Section 4 - First Aid Measures

Inhalation: If symptomatic, move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid if symptoms occur.

Skin: Wash with soap and water. Get medical attention if symptoms occur.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 glasses of milk or water.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

Extinguishing Media: Use appropriate agent for adjacent fire.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Hazardous Combustion Products: None (noncombustible) (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: None

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: If practicable, flush to sanitary sewer with plenty of water and prevent runoff from entering drains, storm sewers, and streams. Otherwise, absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly, to remove residual contamination.

Section 7 - Handling and Storage

Personal Precautionary Measures: Avoid breathing mist or vapor. Avoid contact with eyes and prolonged or repeated contact with skin. Use with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: No special precautionary measures should be needed under anticipated conditions of use.

Storage: Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Hydroquinone	2 mg/m ³ TWA	None listed	2 mg/m ³ TWA

Personal Protective Equipment

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

Skin: For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respiratory Protection: None should be needed. A respirator should be worn if hazardous decomposition products are likely to be or have been released.

Respirator type: Acid gas.

Section 9 - Physical and Chemical Properties

Physical State: liquid

Appearance: colorless, clear

Odor: odorless

pH: 11.0.

Vapor Pressure: approx 17.

Vapor Density: approx 0.6.

Evaporation Rate: n/a.

Viscosity: Not available.

Boiling Point: 100 deg C.

Freezing/Melting Point: 220 deg C

Auto ignition Temperature: Not applicable.

Flash Point: None, noncombustible

Decomposition Temperature: Not available

NFPA Rating: (estimated) Health - 1, Flammability - 0, Reactivity (Stability) – 0

Explosion Limits, Lower: Not available.

Upper: Not available.

Solubility: Complete.

Specific Gravity/Density: 1.1

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: excess heat, light

Incompatibilities with Other Materials: Strong acids

Hazardous Decomposition Products: Sulphur Dioxide

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

Effects of Exposure:

General: Contains: Hydroquinone. In F-344 rats, chronic oral administration of Hydroquinone has resulted in the formation of benign kidney tumors thought to be secondary to nephropathy. Hydroquinone-induced nephropathy following oral administration has been noted in the male F-344 rat, but not in other species or rat strains tested. Although an increase in mononuclear cell leukemia in F-344 female rats has been reported following chronic oral administration of Hydroquinone, this finding was not reproduced in a subsequent study. There was no evidence of carcinogenicity in male mice following chronic oral administration of Hydroquinone; some evidence of carcinogenic activity was shown in female mice by an increase in hepatocellular neoplasms, which were primarily benign adenomas, although this finding was not reproduced in a subsequent study. No skin tumors were reported in mice following long-term dermal application of Hydroquinone. Therefore, neoplastic responses have not been consistent across route of exposure, species, or sex. Hydroquinone is generally negative in bacterial mutagenicity tests; there is evidence for the clastogenicity (chromosome breakage) of Hydroquinone in vivo and in vitro. The relevance of the chromosomal effects in test animals in predicting human risk is unclear.

Inhalation: Expected to be a low hazard for usual industrial or commercial handling by trained personnel. In contact with strong acids or if heated, sulphites may liberate sulphur dioxide gas. Sulphur dioxide gas is irritating to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Eyes: Causes irritation.

Skin: Causes irritation. May cause allergic skin reaction based on human experience. May cause skin depigmentation.

Ingestion: Harmful if swallowed. May cause irritation of the gastrointestinal tract. Some asthmatics or sulphite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Section 12 - Ecological Information

The following properties are ESTIMATED from the components of the preparations. The effects of Hydroquinone are considered the most significant in this estimation:

Potential Toxicity	
Fish LC50 mg/l:	1-10
Daphnid EC50 mg/l:	1-10
Algal IC50 mg/l:	10-100
Organics Readily Degradable (>70%):	Yes (7 days)
Potential Bioaccumulation:	Log Pow <1
COD (approximate g/l):	79
BOD5 (approximate g/l):	49

Potential Toxicity	
Waste treatment microorganisms EC50 (mg/l):	>100

After dilution with a large amount of water, followed by secondary waste treatment, this material is not expected to cause adverse environmental effects.

Section 13 - Disposal Considerations

Discharge, treatment, or disposal may be subject to federal, provincial, or municipal laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14 - Transport Information

General Shipping Information, call: (905) 475-9263.

Section 15 - Regulatory Information

WHMIS (Canada) Status: Controlled

WHMIS (Canada) Hazard Classification: D2

Section 16 - Additional Information

MSDS Creation Date: FEB-2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.