

ES INDUSTRIES

HPLC COLUMN CARE AND USE GUIDE

FOR REVERSED PHASE COLUMNS ONLY

COLUMN INSTALLATION

IT IS HIGHLY RECOMMENDED THAT YOU READ THIS GUIDE FOR SPECIFIC COLUMN CONSIDERATIONS BEFORE PROCEEDING WITH THE INSTALLATION.

- Flush HPLC pump and line thoroughly with filtered and degassed mobile phase (without any buffers). Make sure there are no air bubbles in the system.
- Connect the column to the injector corresponding to the direction of the flow label (located on the column). Leave the outlet of the column unattached.
- Set pump to flow at 0.1 ml/min (of lowest setting) and increase to normal flow rate over 5 minutes.
- Stop flow when there is a free flow of solvent from the column outlet, wipe the end and attach to the detector.
- Equilibrate the column by passing approximately 10-30 column volumes of mobile phase at normal flow rate.
- Avoid any sudden pressure changes.

STORING THE COLUMN

- Column storage conditions affect column lifetime.
- Never store columns with buffers.
- Flush with 5 column volumes of mobile phase without buffer to remove any buffers or salts.
- Store column in 65% Acetonitrile 35% water

COLUMN CLEANING

- Rinse with 10 Column Volumes each of:
 - 95% Water
 - 5% Acetonitrile (for buffer removal)
 - THF
 - 95% Acetonitrile/5% Water
 - Mobile Phase
- If high backpressure is observed reverse flush the column (do not try this on other manufacturer's columns).

MOBILE PHASE CONSIDERATION

- Use only HPLC grade solvents and water.
- Use only highest purity chemicals and reagents.
- Degas and filter all mobile phases prior to use.
- Trace impurities can dramatically degrade HPLC columns.
- When changing to a different mobile phase, make sure the solvents and or buffers are miscible.
- Using solvents that are immiscible with the solvent in the column can permanently damage the column. Salt and buffer precipitation from the mobile phase can permanently damage the column.
- Always check sample solubility and if possible use the mobile phase as the diluent (sample solvent).

Material Safety Data Sheet

METHYL ALCOHOL

Identity (Trade Name As Used On Label)

| | |
|---|------------------------------------|
| Manufacturer ES Industries | MSDS Number* 67-56-1 |
| Street Address 701 S Route 73 | CAS Number* 67-56-1 |
| City State Zip Code West Berlin, NJ 08091 | Date Prepared 09/01/05 |
| Phone Number 1-800-356-6140 (856) 753-8400 | Prepared By* Matthew Przybyciel |
| Fax Number (856) 753-8484 | |

Section 1 – Material Identification and Information

| Components – Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater) | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOMMENDED |
|---|-------------|--------------|-----------------------------|
| Methyl Alcohol- Methanol (Wood Alcohol) Hydroxyl Aliphatic CH ₃ OH, Carbinol, Wood Naptha, Monohydroxy Methane | 200ppm | 200ppm | N/A |
| Non-Hazardous to ship | | | |

Section 2 – Physical / Chemical Characteristics

| | | | |
|---|--|--|-------|
| Boiling Point | 64.5°C (760mm) | Specific Gravity (H ₂ O = 1) | 0.8 |
| Vapor Pressure (mm Hg and Temperature) | 97 @ 20°C | Melting Point | -98°C |
| Vapor Density (Air = 1) | 1.1 | Evaporation Rate | 5.9 |
| Solubility in Water | Miscible | Water Reactive | No |
| Appearance and Odor | Clear, colorless liquid with characteristic alcohol odor | | |

Section 3 – Fire and Explosion Hazard Data

| | | | | | | |
|------------------------------------|--|---------------------------|-----|--|-------------|--------------|
| Flash Point and Method Used | 12°C (tee) | Auto-Ignition Temperature | N/A | Flammability Limits in Air % by Volume | LEL 6.7% | UEL 38.5% |
| Extinguisher Media | CO ₂ Dry chemical, “Alcohol” foam, water mist | | | | | |
| Special Fire Fighting Procedures | Wear self-contained breathing apparatus | | | | | |
| Unusual Fire and Explosion Hazards | Closed containers may explode upon heating | | | | | |

Section 4 – Reactivity Hazard Data

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|--|--|
| STABILITY X Stable <input type="checkbox"/> Unstable | Conditions To Avoid Heat, contact with ignition source |
| Incompatibility (Materials to Avoid) | Oxidizers, reactive metals, acids, acid chlorides, reducing agents |
| Hazardous Decomposition Products | Formaldehyde, carbon monoxide, nitrogen oxides |
| Hazardous Polymerization <input type="checkbox"/> May Occur X Will Not Occur | Conditions To Avoid N/A |

Section 5 – Health Hazard Data

| | | | | |
|---|---|---|---|---|
| PRIMARY ROUTES OF ENTRY | <input checked="" type="checkbox"/> Inhalation <input checked="" type="checkbox"/> Skin Absorption | <input checked="" type="checkbox"/> Ingestion <input type="checkbox"/> Not Hazardous | CARCINOGEN LISTED IN <input type="checkbox"/> NTP <input type="checkbox"/> IARC Monograph | <input type="checkbox"/> OSHA <input checked="" type="checkbox"/> Not Listed |
| HEALTH HAZARDS | Acute Ingestion can produce blindness; can be fatal | | | |
| | Chronic Prolonged or repeated skin contact may cause irritation | | | |
| Signs and Symptoms of Exposure | Toxic by ingestion and inhalation. Affects central nervous system, especially optic nerve. Causes dizziness, muscle weakness, narcosis and respiratory failure. | | | |
| Medical Conditions Generally Aggravated by Exposure | N/A | | | |
| Emergency First Aid Procedures | Seek medical assistance for further treatment, observation and support | | | |
| Eye Contact | Immediately flush thoroughly with large amounts of water | | | |
| Skin Contact | Wash thoroughly with soap and water | | | |
| Inhalation | Remove to fresh air; give artificial respiration if breathing has stopped | | | |
| Ingestion | Drink four 8oz glasses of water, milk or 4% sodium bicarbonate; induce vomiting | | | |

Section 6 – Control and Protective Measures

| | | | |
|---|--|--|---|
| Respiratory Protection (Specify Type) | NIOSH – approved respirator should be worn in absence of adequate ventilation | | |
| Protective Gloves | Butyl rubber, viton or equivalent should be worn to prevent skin contact | Eye Protection | Safety glasses with a side shield should be worn at all times |
| VENTILATION TO BE USED | <input checked="" type="checkbox"/> Local Exhaust | <input checked="" type="checkbox"/> Mechanical (general) | <input type="checkbox"/> Special |
| | <input type="checkbox"/> Other (specify) | | |
| Other Protective Clothing and Equipment | N/A | | |
| Hygienic Work Practices | Wash thoroughly after handling. Do not take internally, eye wash and safety equipment should be readily available. | | |

Section 7 – Precautions for Safe Handling & Use / Leak Procedures

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|--|---|
| Steps to be Taken if Material is Spilled or Released | Wipe up or absorb excess and flush with water; containerize for proper disposal. |
| Waste Disposal Methods | To be performed in compliance with all current local, state, and federal regulations. |
| Precautions to be Taken in Handling and Storage | Keep containers closed; Store in a cool area away from ignition sources and oxidizers. Do not breath vapor; do not get in eyes; avoid prolonged or repeated skin contact; do not take internally. |
| Other Precautions and/or Special Hazards | Electrically ground all equipment when handling this product. |