2-Methoxyethyl acetate

(Also applicable to EC Solvent, Methoxypropyl acetate etc.)

Chemical formula: \( \text{CH}_3\text{.COO.CH}_2\text{.CH}_2\text{.OCH}_3 \)

Synonyms

- Ethylene glycol monomethyl ether acetate
- Glycol ether PM

Physical Data

- Appearance: colourless liquid
- Odour: fruity
- Melting temperature: -65°C
- Boiling temperature: 145°C
- Density (g/ml): 1.00
- Vapour pressure: 2mmHg, 20°C
- Solubility in water: Miscible in all proportions
- Flash point: 49°C
- Explosion limits:
  - lower: 1.7%
  - upper: 8%
- Auto-ignition temperature: 380°C

Hazardous Decomposition

- Carbon dioxide and carbon monoxide may form when heated to decomposition.

Incompatibles

- strong oxidizers
- strong acids
- strong bases
- aluminum
- copper

Protective Equipment

- Safety Glasses
- Gloves
- Vapor Respirator
Eyes

- Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

Skin

- Wear protective gloves and clean body-covering clothing.

Respiratory

- Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

- Personal Respirators (NIOSH Approved): If the exposure limit is exceeded, a half-face organic vapour respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respiratory supplier, whichever is lowest. A full-face piece organic vapour respirator may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respiratory supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Toxicity

Toxicity Data

- Oral rat LD50: 3390 mg/kg
- Investigated as a reproductive effector.

Health

Effects:

- Inhalation: Harmful to unborn foetus. Vapours are irritating to the respiratory tract. Vapours are disagreeable to breathe above 10 ppm because of objectionable odour. Eye, nasal and throat irritation will occur before any central nervous system effects, which occur at 1000 ppm. Headache, dizziness, drowsiness and incoordination may occur.

- Eye: May cause irritation, redness and pain.

- Skin: May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.
- **Ingestion:** The information available to us suggests that the risk of an embryotoxic effect must be considered probable. Pregnant women should not be exposed to the product. Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Symptoms may parallel those from inhalation.

- **Chronic Exposure:** Chronic exposure may damage the liver and kidneys.

**First Aid:**

- **Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

- **Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

- **Skin:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.

- **Ingestion:** If swallowed, give several glasses of water to drink to dilute. If large amounts were swallowed or symptoms occur, get medical advice. Never give anything by mouth to an unconscious person.

**PEL/TLV**

**PEL**

- Long term: 25 mg/m³ (5 ppm)

**TLV**

- Oral, (rat): LD₅₀ 3390 mg/kg

**Fire Hazard Data**

- **Flammable Liquid**

- **Flash Point:** 32°C (90°F) CC

- **Flammable limits in air % by volume:**
  - LEL: 1.6
  - UEL: 13.8

- **Extinguishing Media:** Dry chemical, foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire-exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapours.
• **Special Fire-Fighting Procedures:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

• **Explosion:** Above flash-point, vapour-air mixtures are explosive within flammable limits noted above. Vapours can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

**Disposal**

**Spill Procedures:**

• Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapours, to protect personnel attempting to stop leak, and to flush spills away from exposures.

**Disposal:**

• Whatever cannot be saved for recycling or recovery should be handled as a hazardous waste.