



1. Identification of the Substance / Company / Uses

- Substance Name: Methanol (CH_3OH)
- Country of Origin: Iran
- Synonyms: Methyl alcohol, Methyl hydrate, Wood alcohol
- Intended Uses: Feedstock for formaldehyde and acetic acid, industrial solvent, fuel
- CAS Number: 67-56-1
- UN Number: 1230

2. Chemical Composition

- Hazardous Substance: Methanol
- Hazard Labels: Highly flammable, Toxic (by ingestion, inhalation, skin contact)

3. Hazard Identification

- R11: Highly flammable
 - R23/24/25: Toxic by inhalation, skin contact, and ingestion
 - R39/23/24/25: Danger of very serious irreversible effects
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4. First Aid Measures

- **Skin Contact:** Causes dryness, irritation, possible blindness, even death
 - **Eye Contact:** Redness, swelling, inflammation, blindness
 - **Ingestion:** Abdominal pain, nausea, vomiting, blood in urine, blindness, death
 - **Inhalation:** Breathing difficulties, CNS damage, blindness
 - **General Measures:** Flush with plenty of water, seek medical attention immediately
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5. Firefighting Measures

- **Hazard:** Highly flammable; invisible flame in daylight
 - **Suitable Extinguishing Media:** Dry chemical powder, foam, water spray (direct water jet is ineffective)
 - **Combustion Products:** Carbon monoxide (CO), Carbon dioxide (CO₂)
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6. Accidental Release Measures

- Evacuate area, ensure proper ventilation
 - Collect with sand or absorbent materials and place in sealed containers
 - Prevent environmental contamination
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7. Handling and Storage

- Handle under well-ventilated, cool conditions
- Keep away from direct sunlight, flames, oxidizing agents, acids, alkalis
- Containers must be properly sealed and grounded
- Corrosion data:
 - Cast iron, Monel, Lead, Nickel: <0.051 mm/year
 - Polyethylene: partially degraded

- PVC: resistant
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8. Exposure Controls / Personal Protection

- TLV-TWA: 200 ppm
 - TLV-STEL: 250 ppm
 - PPE: Safety goggles, neoprene or butyl gloves, protective clothing, respirators with air filters
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9. Physical and Chemical Properties

- Appearance: Clear, colorless liquid
 - Odor: Slight alcoholic odor
 - Boiling Point: 64.6 °C
 - Flash Point: 12.2 °C (closed cup), 15.6 °C (open cup)
 - Auto-ignition Temperature: 470 °C
 - Explosion Limits: 5.5 – 36% by volume
 - Solubility: Miscible with water, ethanol, ether, acetone
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10. Stability and Reactivity

- Stable under normal conditions
 - Avoid heat, sparks, flames
 - Incompatible with oxidizing agents, acids, alkali metals, halogens, amines
 - Decomposition Products: CO, CO₂, Formaldehyde
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11. Toxicological Information

- LD50 (oral, rat): 5628 mg/kg
 - LD50 (dermal, rabbit): 15800 mg/kg
 - LC50 (inhalation, rat, 4h): 85 mg/L
 - Health Effects: CNS depression, blindness, systemic toxicity, death
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12. Ecological Information

- LC50 (96h, fish): 10800 mg/l
 - EC50 (72h, algae): 8000 mg/l
 - Biodegradable in soil and water
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13. Disposal Considerations

- Incineration recommended
 - Waste must be disposed according to local regulations
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14. Transport Information

- UN Number: 1230
 - Hazard Class: 3 (Flammable liquid)
 - Packing Group: II
 - HazChem Code: 2WE
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15. Regulatory Information

- Hazard Symbols: Highly flammable, Toxic
 - Safety Phrases:
 - S2: Keep out of reach of children
 - S7: Keep container tightly closed
 - S16: Keep away from ignition sources
 - S36/37: Wear protective clothing and gloves
 - S45: In case of accident or if you feel unwell, seek medical advice immediately
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16. Other Information

- Publication Date: 15 April 2022
- Validity: 3 years from issue date
- Notes: Information provided by Zagros Petrochemical Co. is reliable but without warranty.

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