

# Material Safety Data Sheet (MSDS) — Formalin

**Product Name:** Formalin (Formaldehyde Solution)

**Supplier / Manufacturer:** Basekim Chemical Production Co., UAE / Turkey **Typical Concentration:** 37-38% formaldehyde by weight in water, with stabilizer

(approx. 10-15% methanol) to prevent polymerization.

**Intended Use:** Disinfectant, preservative, tissue fixer, raw material for resins, plastics,

adhesives, textiles, and various industrial processes.

## 1) Identification

- Synonyms: Formaldehyde solution, Methanal solution, Formalin
- Recommended Uses: Disinfection, preservation, manufacturing of industrial products, laboratory applications.
- **Restrictions:** For industrial use only. Not for direct human or animal consumption.

# 2) Hazard Identification (GHS)

### • Classification:

- Acute Toxicity Oral, Dermal, Inhalation (Toxic)
- Skin Corrosion / Irritation Causes severe burns
- Eye Damage Serious eye damage
- Respiratory Sensitization
- Skin Sensitization
- Germ Cell Mutagenicity May cause genetic defects
- Carcinogenicity May cause cancer
- Specific Target Organ Toxicity Respiratory tract irritation
- Signal Word: DANGER
- Hazard Statements:
  - Toxic if swallowed, inhaled, or in contact with skin.
  - Causes severe skin burns and eye damage.
  - May cause allergic skin reaction.
  - May cause genetic defects and cancer with long-term exposure.
  - May cause respiratory irritation.
- Precautionary Statements:
  - Avoid breathing vapors or mists.





- Use only with adequate ventilation.
- Wear protective gloves, clothing, eye protection, and face protection.
- Wash skin thoroughly after handling.
- o Do not eat, drink, or smoke while handling.
- Store locked up in a cool, well-ventilated area away from incompatible materials.

### 3) Composition / Information on Ingredients

Component CAS Number Typical Concentration (%)

Formaldehyde 50-00-0 37-38% Methanol (stabilizer) 67-56-1 10-15%

Water 7732-18-5 Balance (40-53%)

### 4) First Aid Measures

- **Eye Contact:** Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present. Seek medical attention immediately.
- **Skin Contact:** Remove contaminated clothing. Wash thoroughly with soap and water. For burns or irritation, get immediate medical care.
- Inhalation: Move the affected person to fresh air. If breathing is difficult, provide oxygen. Seek immediate medical attention.
- Ingestion: Rinse mouth with water. Do NOT induce vomiting. Call a poison center or physician immediately.

# 5) Firefighting Measures

- Suitable Extinguishing Media: Foam, dry chemical, carbon dioxide.
- Unsuitable Media: Direct water jets may spread the liquid.
- **Specific Hazards:** Vapors may form explosive mixtures with air. Burning produces toxic gases including carbon monoxide and carbon dioxide.
- **Protective Equipment:** Wear full protective gear and self-contained breathing apparatus.

#### 6) Accidental Release Measures

 Personal Precautions: Evacuate non-essential personnel. Use personal protective equipment to avoid inhalation and skin or eye contact.





- Environmental Precautions: Prevent product from entering waterways, drains, or soil.
- Cleanup Methods: Contain spill with inert absorbent material such as sand or vermiculite. Collect and place into labeled containers for disposal. Ensure adequate ventilation during cleanup.

## 7) Handling and Storage

#### • Handling:

- Use only in well-ventilated areas or under local exhaust.
- o Avoid direct contact with skin, eyes, or clothing.
- o Do not breathe vapors or mist.
- o Keep containers closed when not in use.

#### Storage:

- Store tightly sealed in corrosion-resistant containers.
- o Keep in a cool, well-ventilated location.
- Avoid exposure to heat, sunlight, and incompatible materials like strong acids, bases, or oxidizers.

# 8) Exposure Controls / Personal Protection

#### • Exposure Limits:

- o Formaldehyde: 0.75 ppm (8-hour TWA), 2 ppm (STEL)
- Methanol: Local occupational exposure limits apply.

#### • Engineering Controls:

- Use fume hoods, ventilation, or closed systems to limit exposure.
- o Provide eye wash stations and safety showers in areas of use.

#### Personal Protective Equipment (PPE):

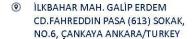
- Eye Protection: Safety goggles or face shield.
- o **Skin Protection:** Chemical-resistant gloves and protective clothing.
- Respiratory Protection: Respirators with appropriate cartridges if vapor levels exceed limits.

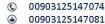
# 9) Physical & Chemical Properties

Property Typical Value

Appearance Clear, colorless liquid

Odor Sharp, pungent formaldehyde smell





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**Property Typical Value** 

Formaldehyde Content 37-38%

Methanol Content 10-15%

Density @ 20°C ~1.08 g/cm<sup>3</sup> **Boiling Point** ~93-96°C

**Freezing Point** Below -15°C

Solubility Fully miscible with water

Flash Point >55°C (closed cup)

### 10) Stability & Reactivity

- **Stability:** Stable under recommended storage conditions.
- Conditions to Avoid: Heat, direct sunlight, open flames.
- **Incompatible Materials:** Strong acids, bases, oxidizers, reducing agents.
- Hazardous Decomposition: Produces carbon monoxide, carbon dioxide, formaldehyde vapors when decomposed.

### 11) Toxicological Information

- **Acute Effects:** 
  - Toxic if swallowed, inhaled, or in contact with skin.
  - Causes severe irritation and burns to skin, eyes, and respiratory tract.
- **Chronic Effects:** 
  - Known human carcinogen with prolonged exposure.
  - Can cause allergic skin reactions and respiratory sensitization.

### 12) Ecological Information

- Aquatic Toxicity: Harmful to aquatic organisms; large spills may cause environmental damage.
- Persistence & Degradability: Degrades in the environment but concentrated releases can be harmful.
- **Bioaccumulation:** Low potential for bioaccumulation.





### 13) Disposal Considerations

- Dispose of in accordance with local hazardous waste regulations.
- Do not pour into drains or natural waterways.
- Use approved chemical waste disposal facilities.

### 14) Transport Information

- **UN Number:** 1198 (Formaldehyde Solution)
- **Proper Shipping Name:** Formaldehyde Solution (Formalin)
- **Hazard Class:** 8 (Corrosive)
- Packing Group: I or II depending on concentration
- Marine Pollutant: Yes

# 15) Regulatory Information

- Formaldehyde is a regulated carcinogen and toxic substance in most countries.
- Ensure compliance with local safety, labeling, and environmental regulations.
- Users must be informed of associated hazards.

## 16) Other Information

- **Revision Date:** [Insert date]
- **Prepared By:** Basekim Technical/Safety Team
- **Disclaimer:** Data provided is for guidance only. Actual batch specifications and lab results must be consulted before use.