



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.
- 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.
 - Avoid direct contact with skin, eyes, or clothing.
 - Do not breathe vapors or mist.
 - Keep containers closed when not in use.
- **Storage:**
 - Store tightly sealed in corrosion-resistant containers.
 - 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:**
 - 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.
 - Provide eye wash stations and safety showers in areas of use.
- **Personal Protective Equipment (PPE):**
 - **Eye Protection:** Safety goggles or face shield.
 - **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



Property	Typical Value
Formaldehyde Content	37-38%
Methanol Content	10-15%
Density @ 20°C	~1.08 g/cm ³
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.