



Revision date: 07/23/2018

Version: 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name/designation:	Formaldehyde 37% Solution (Stabilized with Methanol)
Product No.:	10790-708, 10790-710, 10790-712, 10790-814
Other means of identification:	Formaldehyde Solution, Formalin, Morbucid Acid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Tissue fixation

1.3. Details of the supplier of the safety data sheet

Company VWR International, LLC
Radnor Corporate Center
100 Matsonford Road
Radnor, PA 19087-8660
Telephone 610.386.1700

1.4. Emergency Telephone number

CHEMTREC 800.424.9300
CANUTEC 613.996.6666

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Physical	Health	Environmental
Not Hazardous	Flammable liquid Category 3	Not Hazardous
	Acute Toxicity - Oral Category 4	
	Acute Toxicity - Dermal Category 3	
	Acute Toxicity - Inhalation Category 3	
	Eye Damage Category 1	
	Skin Irritation Category 2	
	Skin Sensitization Category 1	
	Carcinogenicity Category 1A	
	Specific Target Organ Toxicity - Single Exposure Category 1	
	Specific Target Organ Toxicity - Repeated Exposure Category 2	

2.2. GHS Label elements, including precautionary statements



Signal Word: DANGER!

Hazard statements	
H226	Flammable liquid and vapor.
H302	Harmful if swallowed
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulty if inhaled.
H318	Causes serious eye damage.
H350	May cause cancer.
H370	Causes damage to organs. (central nervous system and eyes)
H373	May cause damage to organs through prolonged or repeated exposure (respiratory tract, GI tract, skin, kidneys)

Precautionary statements	
P210	Keep away from heat/sparks/open flames/hot surfaces-No smoking.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fumes/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P362	Take off contaminated clothing and wash before reuse.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local and national regulations.

- 2.3. WHIMS Classification:** Class D1B Toxic Material
D2A Very Toxic Material
E Corrosive Material
B3 Combustible Liquid

2.4. Hazards not otherwise classified (HNOC) or not covered by GHS or WHIMS

SECTION 3: Composition / information on ingredients

3.1. Hazard components

Chemical Name	Formula	Molecular weight	CAS#	Weight%
Formaldehyde	CH ₂ O	30.031 g/mol	50-00-0	25-52%
Methanol	CH ₄ O	32.04 g/mol	67-56-1	10-15%

SECTION 4: First aid measures

4.1. General information

In case of inhalation: Move individual to fresh air immediately. If breathing is difficult, give oxygen. If breathing has stopped, administer artificial respiration. Get medical attention.

In case of skin contact: Remove contaminated clothing immediately. Wash the affected areas with soap or mild detergent and large amounts of water for at least 15 minutes.

In case of eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

In case of ingestion: Never give anything by mouth to an unconscious person. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

4.3. Indication of any immediate medical attention and special treatment needed

Immediate medical treatment is required for eye contact and ingestion.

SECTION 5: Firefighting measures

5.1. Extinguishing media: Small fire – use DRY chemical powder. Large fire – use alcohol foam, water spray or fog.

5.2. Special hazards arising from the substance or mixture: None known

5.3. Special protective equipment for firefighters

5.4. Hazardous combustion products: Strong vapors and irritants, carbon monoxide, carbon dioxide

5.5. Advice for firefighters: None known

5.6. Additional information

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures: Avoid skin and eye contact. Additional protective equipment such as full-face respirator, full body suit and boots may be required.

6.2. Environmental precautions:

Prevent entry into sewers, basements or confined areas; dike if needed. Ensure airborne concentrations or formaldehyde do not exceed published exposure limits.

6.3. Methods and material for containment and cleaning up:

Small spill and leak: Dilute with water and mop, or absorb with an inert dry material and place in appropriate waste disposal container.

Large spill and leak: Keep away from heat and ignition sources. Stop leak without risk. Absorb with DRY earth sand, or other non-combustible material. Avoid skin and eye contact. Ensure airborne concentrations or formaldehyde do not exceed published exposure limits.

6.4. Additional information: If airborne concentrations of formaldehyde exceed 7.5 ppm, only use SCBA or supplied air respirators

SECTION 7: Handling and storage

7.1. Precautions for safe handling: Avoid contact with eyes and skin. Do not breathe vapor or mist. Avoid prolonged or repeated contact with skin. If potential for splashing exists, protect skin by using sleeve protectors, aprons and face-shield. Immediately remove contaminated clothing. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities: Keep containers closed and out of reach of children. Ground all equipment containing material. Store at room temperature.

7.3. Specific end use(s)

In the United States, refer to OSHA 1910.1048 for requirements for handling/use of formaldehyde solutions.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters



Chemical Name	US OEL	EU IOEL	UK OEL	Germany OEL
Formaldehyde	0.75 ppm TWA, 2 ppm STEL OSHA PEL 0.3 ppm Ceiling ACGIH TLV	None Established	2 ppm TWA 2 ppm Ceiling	0.3 ppm TWA 0.6 ppm Ceiling
Methyl Alcohol	200 ppm TWA OSHA PEL 200 ppm TWA, 250 ppm STEL skin ACGIH TLV	200 ppm TWA skin	200 ppm TWA 250 ppm STEL	200 ppm TWA 800 ppm STEL

8.2. Exposure controls

Appropriate engineering controls: Use exhaust ventilation or laboratory hood. Ensure that eyewash stations and quick drench showers are proximal to the workstation or tissue processor.

Personal protection equipment

Eye/face protection: Goggles

Skin protection: Latex or nitrile gloves, Laboratory coat

Respiratory protection: Approved/certified respirator if airborne concentrations exceed exposure limits.

Hygiene measures: Wash thoroughly after handling.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

- a) Appearance:
Physical state: Liquid
Color: Colorless
- b) Odor: Pungent
- c) Odor Threshold: 0.8-1 ppm
- d) pH: 3.0-4.5
- e) Melting point/freezing point: not applicable / -92°C
- f) Initial boiling point: 96°C
- g) Flash point: 52°C (130°F) (closed cup)
- h) Evaporation rate: >1
- i) Flammability: gas
- j) Upper/lower flammability limits in AIR (% by volume)
Upper: 6.0% (methanol)
Lower: 73% (formaldehyde)
- k) Vapor pressure: 40 mmHg @39°C
- l) Vapor density: (AIR = 1) 1.04
- m) Specific Gravity: (H₂O=1) 1.022

- n) Solubility: Soluble in water
- o) Partition coefficient (n-Octanol/Water)
- p) Auto-ignition temperature: 423°C
- q) Decomposition temperature
- r) Oxidizing properties: carbon monoxide, carbon dioxide

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity: Reactive with oxidizing materials, acids, and alkalis.

10.2. Chemical stability: Product is stable under normal conditions of use.

10.3. Possibility of hazardous reactions: No hazardous polymerization.

10.4. Conditions to avoid: N/A

10.5. Incompatible materials: Reactive with oxidizing materials, acids, and alkalis.

10.6. Hazardous decomposition products: Strong vapors and irritants, carbon monoxide, carbon dioxide

SECTION 11: Toxicology

11.1. Information on toxicological effects

Skin corrosion/irritation: Hazardous in case of skin contact (irritant, corrosive, sensitizer). Skin contact may produce burns. May cause skin sensitization which becomes evident upon re-exposure. Skin inflammation is characterized by itching, scaling, reddening or occasionally blistering

Serious eye damage/eye irritation: Hazardous in case of eye contact (irritant). May cause burns. May cause chemical conjunctivitis or corneal damage.

Respiratory or skin sensitization: Hazardous in case of inhalation (lung irritant and sensitizer). Inhalation of spray mist may produce severe irritation of respiratory tract characterized by coughing, choking or shortness of breath. May cause asthmatic attacks due to allergic sensitization.

Aspiration hazard: Hazardous in case of inhalation (lung irritant and sensitizer). Inhalation of spray mist may produce severe irritation of respiratory tract characterized by coughing, choking or shortness of breath. May cause asthmatic attacks due to allergic sensitization.

Germ cell mutagenicity: N/A

Carcinogenicity:

Formaldehyde NIOSH: Classified proven ACGIH: Classified A2(suspected for human)

NTP: Classified 2(Reasonably anticipated) IARC: Classified A2(Probable for human)

Methanol Not classified as a human carcinogen.

Reproductive toxicity: Animal embryotoxin

Specific target organ toxicity-single exposure:

Formaldehyde: Category 2 – Respiratory tract irritation

Methanol: Category 3 - Respiratory tract irritation

Category 1 – central nervous system (CNS)

Category 2 – Optic nerve

Specific target organ toxicity-repeated exposure:

Formaldehyde: Category 2 – respiratory tract irritation, skin

Methanol: Category 2 – kidneys, liver, GI tract, skin, respiratory tract

EMERGENCY OVERVIEW: DANGER! CONTAINS FORMALDEHYDE – POTENTIAL CANCER HAZARD. REPEATED OR PROLONGED EXPOSURE INCREASES RISK. HIGHLY TOXIC BY INHALATION AND IF SWALLOWED. IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN. MAY CAUSE SENSITIZATION BY INHALATION OR SKIN CONTACT. RISK OF SERIOUS DAMAGE TO EYES. CORROSIVE; MAY CAUSE BURNS. KEEP CONTAINER CLOSED, USE WITH ADEQUATE VENTILLATION. TARGET ORGANS: SKIN, EYES, RESPIRATORY TRACT. FOR LABORATORY USE ONLY.

SECTION 12: Ecological information

12.1. Ecotoxicity

Formaldehyde LC50 Pimephales promelas (Fathead minnow) 24. 1 mg/L /96 hr

Methanol: LC50 Fathead minnow 29,400 mg/L / 96hr; EC50 daphnia magna >10,000 mg/L/24hr

12.2. Persistence and degradability: No data available

12.3. Bioaccumulative potential: No data available

12.4. Mobility in soil: No data available

12.5. Results of PBT and vPvB assessment: No data available

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods: Unused product: dispose as a regulated hazardous waste. Spent product or spill cleanup – follow all provincial, local, state, and federal regulations.

SECTION 14: Transport information

Land Transport DOT (U.S.)

UN Number UN1198
Proper Shipping name: FORMALDEHYDE SOLUTION
Transport Hazard Classes:
Class: 3(8)
Hazard Label(s) Flammable liquid
Packing Group: III
Environmental hazard(s) No
Special precautions for user

Sea Transport IMDG

UN Number: UN1198
Proper Shipping name: FORMALDEHYDE SOLUTION
Transport Hazard Classes:
Class: 3(8)
Hazard Label(s) Flammable liquid
EMS- No. F-E, S-C
Packing Group: III
Environmental hazard(s)
Segregation Group
Special precautions for user

Air Transport IATA

UN Number: UN1198
Proper Shipping name: FORMALDEHYDE SOLUTION, FLAMMABLE
Transport Hazard Classes
Class: 3(8)
Hazard Label(s)
Packing Group III
Environmental hazard(s)

SECTION 15: Regulatory information


OSHA Hazards

SARA 302 Extremely Hazardous Substances : This product contains the following chemicals regulated under SARA Section 302: Formaldehyde

SARA 313 (TRI reporting) Listed (Methanol, Formaldehyde)

SARA 311/312 Hazardous Catagories: Acute Health, Chronic Health

STATES RTK: PA, NJ, RI, MN, MA, FL, IL Formaldehyde (CAS #50-00-0) Methanol (CAS #67-56-1)

California Proposition 65:  **WARNING:** This product can expose you to chemicals including Formaldehyde and Methanol, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Inventory status:
Canada DSL/NDSL Inventory List
US TSCA Inventory List
EINECS, ELINCS or NLP

SECTION 16: Other information

Canadian Carcinogenicity hazard class
PHNOC hazard class
HHNOC hazard class
Biohazardous Infectious Materials hazard class

NFPA Rating:
Health: 3
Flammability: 2
Reactivity: 0
Special Hazard:

DISCLAIMER

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.