

FORMALDEHYDE

Material Safety Data Sheet

1. Identification of the substance /preparation and of the company / undertaking:

Product Details:

Trade Name	Formaldehyde 37% solution
Synonyms	Formalin; Morbic Acid; Methylene Oxide; Methyl Aldehyde
Chemical Formula	HCHO and CH ₃ OH in Water
Manufacturer /Supplier	Simalin Chemical Industries Pvt. Ltd.
Simalin Chemical Industries Pvt. Ltd. 13 GIDC Industrial Estate H Road Nandesari, Dist: Vadodara, Gujarat India. Email : simalin@simalin.com Website : www.simalin.com	
Further information obtainable from Information in case of emergency	Safety Department Tel:+91265 2840265

2.Composition/Information on Ingredients:

Description	CASNo.	EINECSNumber
Formaldehyde	50-00-0	200-001-8
Methanol	67-56-1	200-659-6
Water	7732-18-5	

3. Hazard Identification:

Emergency Overview	POISON! DANGER! Suspect Cancer Hazard. May cause cancer. Risk of cancer depends on level and duration of exposure. Vapor harmful. Harmful if inhaled or absorbed through skin. Causes irritation to skin, eyes and respiratory tract. Strong sensitizer. May be fatal or cause blindness if swallowed. Cannot be made non-poisonous. Flammable liquid and vapor
FORMALDEHYDE	Health rating: 3 - Severe (cancer causing) , Flammability rating: 2 - moderate Reactivity rating: 2 – moderate, Contact rating: 3 - Severe (corrosive)
Lab Protective Equip:	Goggles and shield; Lab coat and apron; Vent hood; Proper gloves; Class B extinguisher.
Storage Color Code:	Red (Flammable)
Potential Health Effects :	The perception of formaldehyde by odor and eye irritation becomes less sensitive with time as one adapts to formaldehyde. This can lead to overexposure if a worker is relying on formaldehyde's warning properties to alert him or her to the potential for exposure.
Inhalation:	May cause sore throat, coughing, and shortness of breath. Causes irritation and sensitization of the respiratory tract. Concentrations of 25 to 30 ppm cause severe respiratory tract injury leading to pulmonary edema and pneumonitis. May be fatal in high concentrations.
Ingestion:	Can cause severe abdominal pain, violent vomiting, headache, and diarrhea. Larger doses may produce decreased body temperature, pain in the digestive tract, shallow respiration, weak irregular pulse, unconsciousness and death. Methanol component affects the optic nerve and may cause blindness.
Skin Contact:	Toxic. May cause irritation to skin with redness, pain, and possibly burns. Skin absorption may occur with symptoms paralleling those from ingestion. Formaldehyde is a severe skin irritant and sensitizer. Contact causes white discoloration, smarting, cracking and scaling.
Eye Contact:	Vapors cause irritation to the eyes with redness, pain, and blurred vision. Higher concentrations or

Chronic Exposure:	splashes may cause irreversible eye damage. Frequent or prolonged exposure to formaldehyde may cause hypersensitivity leading to contact dermatitis. Repeated or prolonged skin contact with formaldehyde may cause an allergic reaction in some people. Vision impairment and enlargement of liver may occur from methanol component. Formaldehyde is a suspected carcinogen (positive animal inhalation studies).
Aggravation of Pre-existing Conditions:	Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance. Previously exposed persons may have an allergic reaction to future exposures.

4. First-aid Measures:

After inhalation	Remove to fresh air, restore breathing, get medical attention.
After skin contact	Remove contaminated clothing, flush with plenty of water at least for 15 minutes.
After eye contact	Immediately flush opened eye with plenty of running water for at least 15 minutes.
After swallowing	Induce vomiting of conscious patient by giving plenty of water to drink. Consult physician immediately in case of an unconscious victim.

5. Fire-fighting Measures:

Fire:	Flash point: 590C (140 F) CC Auto ignition temperature: 300C (572 F) Flammable limits in air % by volume: LEL: 7.0; UEL: 73 Flammable liquid and vapor, Gas vaporizes readily from solution and is flammable in air.
Explosion:	Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Containers may explode when involved in a fire.
Fire Extinguishing Media:	Water spray, dry chemical, alcohol foam, or carbon dioxide.
Special Information:	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing

	apparatus with full face piece operated in the pressure demand or other positive pressure mode. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.
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6. Accidental Release Measures:

Person-related safety precautions	Proper protective equipment and self contained breathing apparatus with full face piece operated in positive pressure mode.
Measures for cleaning/collecting	Shut off sources of ignition, no flares, smoking or flames in area. Stop leakage if possible. Use water spray to reduce vapor. Take up with sand or other noncombustible absorbent and place into container for disposal according to item 13.

7. Handling and Storage:

Handling:	
Information for safe handling	Avoid breathing vapors, avoid contact with eyes, skin and clothing. Decontaminate soiled clothing thoroughly before use.
Information about fire and explosion protection	Flammable liquid. Closed containers exposed to heat may explode.
Storage:	
Requirements to be met by store rooms and receptacles	Store in tightly closed containers in a dry, cool, well ventilated, flammable liquid storage area.

8. Exposure Controls/ Protection:

50- 00- 0 Formaldehyde	
OES	Short term value*3 mg/m ³ Long term value**1.5mg/m ³
* total inhalable vapor, **permissible exposure	
Personal protective equipment	Self contained breathing apparatus and full
	Protective clothing.
Respiratory protection	Self contained breathing apparatus.
Protection of hands	Gloves of natural rubber.
Eye protection	Safety glasses with face shield.

9. Physical and Chemical Properties:

General information:	
Form	Liquid
Color	Colorless
Odor	Pungent odor
Change in condition	
Melting point/Melting range	--
Boiling Point/Boiling range	96 ⁰ C
Flash point:(CC)	59 ⁰ C
Flammable limits	Upper 73.0%, Lower 7.0%
Autoignition temperature	423 ⁰ C
Specific gravity at 25 ⁰ C	1.108
Vapor density (air =1)	1.0
Vapor Pressure(MMHG) at 20 ⁰ C	1.3
Solubility in water/Miscibility with water at 20 ⁰ C	Complete.

10. Stability & Reactivity:

Stability:	Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:	May form carbon dioxide, carbon monoxide, and formaldehyde when heated to decomposition.
Hazardous Polymerization:	Trioxymethylene precipitate can be formed on long standing at very low temperatures. Non

	non-hazardous polymerization may occur at low temperatures, forming paraformaldehyde, a white solid.
Incompatibilities:	Incompatible with oxidizing agents and alkalis. Reacts explosively with nitrogen dioxide at ca. 180C (356 F). Reacts violently with perchloric acid, perchloric acid-aniline mixtures, and nitro methane. Reaction with hydrochloric acid may form bis-chloromethyl ether, an OSHA regulated carcinogen.
Conditions to Avoid:	Heat, flames, ignition sources and incompatibles.

11. Toxicological Information:

Acute toxicity:	
LD/LC50 values relevant for classification:	Oral/LD 50:100mg/Kg(rat) SKN LD 50:270µl/kg(rabbit)
Primary irritant effect:	
On the skin	Irritating effect(severe)
On the eye	Irritating effect(severe)
Sensitization	Prolonged contact may causes skin sensitization.

12. Ecological Information:


Environmental toxicity	The product is expected to be slightly toxic to aquatic life. The LC 50/96hrs values for fish are between 10 and 100mg/l.
Environmental fate	When released into the soil, material is expected to reach into ground water. When released into water, the material is expected to readily bio-degrade and is not expected to bio-accumulate. When released into air, the material is expected to readily degrade by photolysis, readily removed from atmosphere by dry and deposition. Half life of the material is less than one day, when released into air.

13. Disposal Conditions:

Whatever cannot be recycled, should be absorbed in sand or other non-combustible absorbent, containerized and transferred to appropriate and approved waste disposal

facility. Dispose waste, containers and unused contents in accordance with official regulations.

14. Transit Information:

Shipping Name	FORMALDEHYDE SOLUTION
UN Number	1198 Class:3,,8
ADG Classification, Sub risk	Class 3,8
Packing Group	III Label: Flammable liquid.
Haz Chem. Symbol	

15. Regulatory information:

This product is extremely hazardous. It is listed as an "ACGIH" suspected human carcinogen and a "NTP" anticipated human carcinogen. It may cause (mutagenic) reproductive effects.

16. Other Information:

Simalin Chemical Industries Pvt Ltd provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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This document is valid for 03 years from the date of issue and is bound to be cancelled, if not revised on or before the date of revision.