MATERIAL SAFETY DATA SHEET
Formaldehyde

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Details

Trade Name: Formaldehyde 37%

Synonyms: Formalin; Morbic Acid; Methylene Oxide; Methyl Aldehyde

Chemical Formula: HCHO and CH3OH in Water

Manufacturer/Supplier: Cosmo Chemistry India, Office No. 713, 7th Floor, Millennium Business Hub, Sarthana Jakatnaka, Varachha Main Road, Surat, Gujarat, India - 395006

Email: info@cosmochemistryindia.com

Further information obtainable from: Safety Department

Information in case of emergency: Tel: +91-7984584838

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Description	CAS No.	EINECS Number
Formaldehyde	50-00-0	200-001-8
Methanol	67-56-1	200-659-6
Water	7732-18-5	-

SECTION 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 Ratings: Health rating: 3 - Severe (cancer causing); Flammability rating: 2 - Moderate; Reactivity rating: 2 - Moderate; Contact rating: 3 - Severe (corrosive)

Lab Protective Equipment: 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 splashes may cause irreversible eye damage.

Chronic Exposure: 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.

SECTION 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 for at least 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.

SECTION 5: FIRE-FIGHTING MEASURES

Fire: Flash point: 59°C (140°F) CC. Auto ignition temperature: 300°C (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.

SECTION 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 Section 13.

SECTION 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, well-ventilated, flammable liquid storage area.

SECTION 8: EXPOSURE CONTROLS/PROTECTION

Formaldehyde (CAS 50-00-0)

OES: Short term value*: 3 mg/m³; Long term value**: 1.5 mg/m³ (*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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

General information

Property	Value
Form	Liquid
Color	Colorless
Odor	Pungent odor
Melting point/Melting range	--
Boiling Point/Boiling range	96°C
Flash point (CC)	59°C
Flammable limits	Upper 73.0%, Lower 7.0%
Autoignition temperature	423°C
Specific gravity at 25°C	1.110
Vapor density (air = 1)	1.0
Vapor Pressure (mmHg) at 20°C	1.3
Solubility in water/Miscibility with water at 20°C	Complete

SECTION 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-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. 180°C (356°F). Reacts violently with perchloric acid, perchloric acid-aniline mixtures, and nitromethane. Reaction with hydrochloric acid may form bis-chloromethyl ether, an OSHA regulated carcinogen.

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

LD/LC50 values relevant for classification: Oral LD50: 100 mg/kg (rat); Skin LD50: 270 µl/kg (rabbit)

Primary irritant effect

On the skin: Irritating effect (severe)

On the eye: Irritating effect (severe)

Sensitization: Prolonged contact may cause skin sensitization.

SECTION 12: ECOLOGICAL INFORMATION

Environmental toxicity: The product is expected to be slightly toxic to aquatic life. The LC50/96hrs values for fish are between 10 and 100 mg/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 biodegrade and is not expected to bioaccumulate. When released into air, the material is expected to readily degrade by photolysis, readily removed from atmosphere by dry deposition. Half-life of the material is less than one day when released into air.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSIT INFORMATION

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

SECTION 15: REGULATORY INFORMATION

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

SECTION 16: OTHER INFORMATION

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Department issuing MSDS: Safety Department

Date of Issue: 01-07-2024

Date of Revision: 30-06-2027

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