



## Material Safety Data Sheet

LA0002  
Formaldehyde 37% Methanol 12-15%

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Id:** LA0002

**Product Name:** Formaldehyde 37% Methanol 12-15%

**Synonyms:** None

**Chemical Family:** Aldehyde

**Application:** Intermediate for urea and melamine formaldehyde resins; phenolic resins; acetylenic chemicals; polyacetal resins.

**Distributed By:**

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**Prepared By:** The Safety, Health and Environment Department of Univar Canada Ltd.

**Preparation date of MSDS:** 27 August 2010

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Formaldehyde 50-00-0	36-38	Inhalation LC50 (Rat) = 0.578 mg/L 4 h Oral LD50 (Rat) = 500 mg/kg
Methanol 67-56-1	10-15	Dermal LD50 (Rabbit) 15800 mg/kg Oral LD50 (Rat) 5628 mg/kg Inhalation LC50 (Rat) >32,000 ppm / 8hrs Inhalation LC50 (Rat) 64000 ppm (4-hour exposure) Oral LD50 (Mouse) 7300 mg/kg

**Note:** No additional remark.

### 3. HAZARDS IDENTIFICATION

**Potential Acute Health Effects:**

**Eye Contact:** Liquid can cause severe, permanent damage and loss of vision. Causes eye burns. Vapors may cause irritation. Symptoms of exposure may include: eye irritation, burning sensation, pain, watering and/or change of vision.

### 3. HAZARDS IDENTIFICATION

**Skin Contact:** Causes burns. Symptoms may include pain, itching, discolouration, swelling and blistering. May cause dermatitis, prolonged or repeated contact may cause skin sensitization. Harmful if absorbed through the skin. Symptoms of exposure may include: Central nervous system depression with headache, stupor, uncoordinated or strange behaviour or unconsciousness. Prolonged and or repeated skin contact with methanol soaked material has produced toxic effects including vision effects and death.

**Inhalation:** Harmful if inhaled. Causes severe respiratory irritation. Symptoms of exposure may include: Central nervous system depression with nausea, dizziness, headache, stupor, uncoordinated or strange behavior or unconsciousness. nasal discharge, hoarseness, coughing, chest pain and breathing difficulty. Accumulation of fluid in the lungs (pulmonary edema) may occur. Bronchitis and/or bronchopneumonia. Massive exposure may cause acute poisoning, visual impairment and death.

**Ingestion:** POISON, may be fatal if ingested. Severe abdominal pain, unconsciousness, collapse, temporary or permanent visual impairment. Causes digestive tract burns. Symptoms of exposure may include : nausea, vomiting, loss of appetite, gastrointestinal irritation and/or diarrhea. Other symptoms expected to parallel inhalation. A small amount of methanol (usually two or more ounces) can cause mental sluggishness, nausea and vomiting leading to severe illness, and may produce adverse effects on vision with possible blindness or death if treatment is not received.

### 4. FIRST AID MEASURES

**Eye Contact:** In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**Inhalation:** Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

**Notes to Physician:** Treatment based on sound judgment of physician and individual reactions of patient. Observe for pulmonary edema. Aspiration into the lungs will result in chemical pneumonitis.

### 5. FIRE FIGHTING MEASURES

**Flash Point:** 56 °C / 132 °F

**Flash Point Method:** Setaflash.

**Autoignition Temperature:** 430°C /806°F

**Flammable Limits in Air (%):** Lower: 7% Upper: 73%

**Extinguishing Media:** Use DRY chemicals, CO2, alcohol foam or water spray.

**Special Exposure Hazards:** Use water spray to cool fire-exposed containers and structures. The vapors may explode at high temperatures if brought in contact with an ignition source. Oxidizing chemicals may accelerate the burning rate in a fire situation. Water run-off and vapour cloud may be corrosive. Dike and collect water used to fight fire for neutralization before release.

**Hazardous Decomposition/Combustion Materials (under fire conditions):** Carbon monoxide. Carbon dioxide. Formaldehyde.

**Special Protective Equipment:** Full protective clothing and self-contained breathing apparatus required for fire fighting. Thoroughly decontaminate bunker gear and other fire-fighting equipment before re-use.

**NFPA RATINGS FOR THIS PRODUCT ARE:** HEALTH 3, FLAMMABILITY 2, INSTABILITY 0

**HMIS RATINGS FOR THIS PRODUCT ARE:** HEALTH 3, FLAMMABILITY 2, REACTIVITY 0

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures:** Wear appropriate protective equipment. Restrict access to unprotected personnel.

**Environmental Precautionary Measures:** Prevent entry into sewers or streams, dike if needed. Consult local authorities.

**Procedure for Clean Up:** Isolate hazard area and restrict access. Eliminate all ignition sources. Stay upwind, out of low areas, and ventilate closed spaces before entering. Contain spill by diking. If fire potential exists, blanket spill with alcohol type aqueous film-forming foam or use water fog stream to disperse vapours. Prevent spilled material from entering sewers, confined spaces, drains, or waterways. Minimal quantities of water should be used to wash spilled material to waste storage or sumps. Small spills: soak up with absorbent material and scoop into containers. Large spills : prevent contamination of waterways. Dike and pump into suitable containers. Clean up residual with absorbent material, place in appropriate container and flush with water.

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## 7. HANDLING AND STORAGE

**Handling:** Use with adequate ventilation. Keep the containers closed when not in use. Handle and open containers with care. Do not store near oxidizers, strong acids or strong alkalis. Keep away from sources of ignition. Low temperature result in formation of paraformaldehyde. Avoid contact with eyes, skin and clothing. Avoid breathing vapor. Ensure proper electrical grounding procedures are in place. Launder contaminated clothing prior to reuse. Discard contaminated leather clothing. Wash thoroughly after handling.

**Storage:** Store in a cool, dry, well ventilated area, away from heat and ignition sources. Keep containers tightly closed. Store between 16 - 35°C (60.8 - 95°F) Agitated storage recommended. Store out of direct sunlight and on an impermeable floor. Place away from incompatible materials. Store in accordance with good industrial practices.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Controls:

Local ventilation recommended where mechanical ventilation is ineffective in controlling airborne concentrations below the recommended occupational exposure limit.

**Respiratory Protection:** Based on workplace contaminant level and working limits of the respirator, use a respirator approved by NIOSH.

For formaldehyde concentrations > 1 and < 10 times the occupational exposure level: Use air-purifying respirator with full facepiece fitted with either cartridge(s) or canister specifically approved for protection against formaldehyde, or a full facepiece powered air-purifying respirator fitted with either cartridge(s) or canister specifically approved for protection against formaldehyde. The air purifying element must have an end of service life indicator, or a documented change out schedule must be established. Otherwise, use supplied air.

For concentrations more than 10 times the occupational exposure level and less than the lower of either 100 times the occupational exposure level or the IDLH: Use Type C full facepiece supplied-air respirator operated in positive-pressure or continuous-flow mode.

For concentrations > the IDLH level or unknown concentration (such as in emergencies): Use self-contained breathing apparatus with full facepiece in positive-pressure mode or Type C positive-pressure full facepiece supplied-air respirator with an auxiliary positive-pressure self-contained breathing apparatus escape system.

For escape: Use positive-pressure self-contained breathing apparatus with full facepiece or full facepiece mask with chin style or front or back mounted type industrial size canister specifically approved for protection against formaldehyde.

### Gloves:

Appropriate chemical resistant gloves should be worn. Butyl rubber gloves.

**Skin Protection:** Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance. Neoprene coated apron or chemical resistant clothing.

**Eyes:** Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Personal Protection Data:** Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Formaldehyde	0.3 ppm Ceiling	5 ppm Ceiling 3 ppm TWA 10 ppm STEL	20 ppm
Methanol	200 ppm TWA (Skin) 250 ppm STEL (Skin)	200 ppm TWA (Skin) 250 ppm STEL (Skin) 260 mg/m <sup>3</sup> TWA (Skin) 325 mg/m <sup>3</sup> STEL (Skin)	6000 ppm

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid.

**Colour:** Clear Colourless

**Odour:** Strong Pungent Formaldehyde

**pH** 3-6 @ 25°C

**Specific Gravity:** 1.081

**Boiling Point:** 90-100°C / 194-212°F

**Freezing/Melting Point:** -13 - ( -11)°C/ 8.6 - (12.2)°F (20% formaldehyde)

**Vapour Pressure:** 27 mmHg @ 25°C

**Vapour Density:** 1.04 (Formaldehyde)

**% Volatile by Volume:** 42 - 66 %Wt

**Evaporation Rate:** Not Available.

**Solubility:** Completely soluble.

**VOCs:** Not Available.

**Viscosity:** Not Available.

**Molecular Weight:** 30.03

**Other:** Not Available.

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Hazardous Polymerization:** Will not occur.

**Conditions to Avoid:** Avoid excessive heat, open flames and all ignition sources.

**Materials to Avoid:** Strong acids. Strong alkalis. Oxidizing agents. Nitric acid. Perchloric acid. Chromium trioxide.

**Hazardous Decomposition Products:** Oxides of carbon. Formaldehyde.

**Additional Information:**

Exposure to elevated temperatures will cause evolution of formaldehyde, methanol and water. Reactions with Phenol, strong acids or strong alkalis may be violent. Alkaline material will cause evolution of hydrogen gas.

## 11. TOXICOLOGICAL INFORMATION

**Principle Routes of Exposure**

**Ingestion:** POISON, may be fatal if ingested. Severe abdominal pain, unconsciousness, collapse, temporary or permanent visual impairment. Causes digestive tract burns. Symptoms of exposure may include : nausea, vomiting, loss of appetite, gastrointestinal irritation and/or diarrhea. Other symptoms expected to parallel inhalation. A small amount of methanol (usually two or more ounces) can cause mental sluggishness, nausea and vomiting leading to severe illness, and may produce adverse effects on vision with possible blindness or death if treatment is not received.

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**Eye Contact:** Liquid can cause severe, permanent damage and loss of vision. Causes eye burns. Vapors may cause irritation. Symptoms of exposure may include: eye irritation, burning sensation, pain, watering and/or change of vision.

**Additional Information:** Vapors may cause severe eye and respiratory irritation. Material is irritating to mucous membranes and upper respiratory track.

Repeated exposure by inhalation or absorption of methanol may cause systemic poisoning, brain disorders, impaired vision and blindness. Inhalation may worsen conditions such as emphysema or bronchitis. Repeated skin contact may cause dermal irritation, dryness and cracking. Effects of sub lethal doses may be nausea, headache, abdominal pain, vomiting and visual disturbances ranging from blurred vision to light sensitivity. Methanol is toxic by inhalation and ingestion. Inhalation of vapors may cause cyanosis, CNS effects, lethargy, loss of consciousness and death. The effects from inhalation may be delayed. Ingestion may cause malaise, CNS effects, discomfort, and death if not treated promptly. Ingestion of methanol has resulted in adverse effects (necrosis and haemorrhaging) in the brain. Medical conditions aggravated by exposure include: skin disorders and allergies, liver disorders and eye disease. Undocumented reports suggest that this product may form a siloxane polymer on the eyes, lungs, or other mucous membranes. Long term exposure to methanol has been associated with headaches, giddiness, conjunctivitis, insomnia and impaired vision. Dermal absorption of significant amounts of methanol resulted in death in several animal species. Toxic effects in animals exposed to methanol by inhalation include eye irritation, blindness and nasal discharge. Toxic effects observed in animals exposed to methanol by ingestion include CNS effects, gastrointestinal effects, anesthetic effects, damage to the optic nerve and acidosis.

**Synergistic Products:** In animals, high concentrations of methanol can increase the toxicity of other chemicals, particularly liver toxins like carbon tetrachloride. Ethanol significantly reduces the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

**Potential for Accumulation:** Methanol is readily absorbed into the body following inhalation and ingestion. Skin absorption may occur if the skin is broken or exposure is prolonged. Once absorbed, methanol is rapidly distributed to body tissues. A small amount is excreted unchanged in exhaled air and the urine. The rest is first metabolized to formaldehyde, which is then metabolized to formic acid and/or formate. The formic acid and formate are eventually converted to carbon dioxide and water. In humans, methanol clears from the body, after inhalation or oral exposure, with a half-life of 1 day or more for high doses (greater than 1000 mg/kg) or about 1.5-3 hours for low doses (less than 100 mg/kg or 76.5-230 ppm (100-300 mg/m<sup>3</sup>)).

**Acute Test of Product:**

**Acute Oral LD50:** Not Available.

**Acute Dermal LD50:** Not Available.

**Acute Inhalation LC50:** Not Available.

**Carcinogenicity:**

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Formaldehyde	Group 1	A2
Methanol	Not listed.	Not listed.

**Carcinogenicity Comment:** Formaldehyde has been reported by NTP to produce carcinomas in the nasal cavity of laboratory animals through inhalation. There is inadequate evidence to assess carcinogenicity of formaldehyde in man.

**Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity:**

Methanol is reported to cause birth defects in rats exposed to 20 000 ppm. In experimental animals, methanol is fetotoxic, teratogenic and has produced significant behavioral abnormalities in offspring at dose levels not producing maternal toxic effects. Behavioural abnormalities were observed in the offspring of rats given drinking water containing 2% methanol. Methanol has produced mutagenic effects (somatic cells) in experimental animals.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Formaldehyde	LC50 96 h (Pimephales promelas) 22.6-25.7 mg/L flow-through LC50 96 h (Lepomis macrochirus) 1510 µg/L static LC50 96 h (Brachydanio rerio) 41 mg/L static LC50 96 h (Oncorhynchus mykiss) 0.032-0.226 ml/L flow-through LC50 96 h (Oncorhynchus mykiss) 100-136 mg/L static LC50 96 h (Pimephales promelas) 23.2-29.7 mg/L static	Not Available.	Not Available.
Methanol	LC50 (Oncorhynchus mykiss) 13200 mg/L LC50 (Pimephales promelas) 28100 mg/L (96 hrs) LC50 (Lepomis macrochirus) 15400 mg/L (96 hrs)	EC50 (Daphnia Magna) :24500 mg/L (48hrs)	EC50 (Selenastrum capricornutum): 7.1 mg/L (48hrs)

### Other Information:

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. Spill areas must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life.

## 13. DISPOSAL CONSIDERATIONS

**Disposal of Waste Method:** Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

**Contaminated Packaging:** Waste materials must be disposed of in accordance with your municipal, state, provincial and federal regulations.

## 14. TRANSPORT INFORMATION

### DOT (U.S.):

**DOT Shipping Name:** FORMALDEHYDE SOLUTION, FLAMMABLE

**DOT Hazardous Class** 3 (8)

**DOT UN Number:** UN1198

**DOT Packing Group:** III

**DOT Reportable Quantity (lbs):** Not Available.

**Note:** No additional remark.

**Marine Pollutant:** No.

### TDG (Canada):

**TDG Shipping Name:** FORMALDEHYDE SOLUTION, FLAMMABLE

**Hazard Class:** 3 (8)

**UN Number:** UN1198

**Packing Group:** III

**Note:** No additional remark.

**Marine Pollutant:** No.

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## 15. REGULATORY INFORMATION

**U.S. TSCA Inventory Status:** All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

**Canadian DSL Inventory Status:** All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

**Note:** Not available.

### U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Formaldehyde	Listed	Listed	Listed
Methanol	Not Listed.	Listed	Listed

**California Proposition 65:** Listed.

**MA Right to Know List:** Listed.

**New Jersey Right-to-Know List:** Listed.

**Pennsylvania Right to Know List:** Listed.

### **WHMIS Hazardous Class:**

B3 COMBUSTIBLE LIQUIDS

D1A VERY TOXIC MATERIALS

D2A VERY TOXIC MATERIALS

D2B TOXIC MATERIALS

E CORROSIVE MATERIAL



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## 16. OTHER INFORMATION

**Additional Information:**

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**Disclaimer:**

**NOTICE TO READER:**

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**\*\*\*END OF MSDS\*\*\***