

Material Safety Data Sheet (MSDS): Formaldehyde

Section 1: Product Identification			
Product name:	FORMALDEHYDE		
Chemical formula:	N/A		
Synonyms:	Methylene oxide, AC-4553, AC-4554, 41860, 41883		
Supplier:	Chemicals LTD 123 Anywhere St. Ottawa, ON K5R 8N9		
Material uses:	For laboratory use only.		
Section 2: Hazardous Ingredients			
Name	CAS #	%	TLV
1. Formaldehyde	50-00-0	30 – 40	Exposure limits: 0.3 ppm (0.37mg/m ³)
2. Methanol	67-56-1	5 – 15	Exposure limits: 200 ppm (262mg/m ³)
3. Water	7732-18-5	Balance	N/A
Section 3: Physical Data			
Physical state	Clear, colourless liquid with strong formaldehyde odour.		
pH	2.8 – 4.0 (25 degrees Celsius) (37% solution)		
Odour threshold	0.8 – 1ppm		
Percent volatile	100%(V/V)		
Freezing point	Insoluble polymer gradually forms.		
Boiling point	90 - 100		
Specific gravity	1.08 to 1.0975 (Water = 1)		
Vapour pressure	~40 mm of Hg (@ 39°C)		
Vapour density	0.62 to 1.04 (Air = 1)		
Evaporation rate	2.1(n-Butyl acetate = 1) (Methanol).		
Solubility	Miscible in water.		
Section 4: Fire and Explosion Data			
Flash point	50 – 78 degrees Celsius		
Flammability	Lower: 7%; Upper: 73%		
Fire extinguishing procedures	Use DRY chemical, carbon dioxide, alcohol-resistant foam or water spray. Cool containing vessels with flooding quantities of water until well after fire is out.		
Section 5: Reactivity Data			
Stability	Stable. Conditions to avoid: heat, sparks and flame, temperatures below 20°C.		
Incompatibility	May react violently with: acids, alkalis, anhydrides, isocyanates, urea, phenol, oxidizing agents, oxides, organic oxides, reducing agents, ammonia, aniline, magnesium carbonate, performic acid, alkali metals, amines, hydrogen peroxide, nitromethane, nitrogen dioxide, perchloric acid, perchloric acid-aniline mixtures, bases, monomers, water reactive materials, magnesium carbonate hydroxide.		

Section 6: Toxicological Properties	
Routes of entry	Inhalation, ingestion, absorption through skin and eyes.
Effects of acute exposure	Death if inhaled or absorbed; severe eye irritation and burns; allergic dermatitis, skin burns; bronchitis, pulmonary oedema; headache, dizziness, nausea, vomiting; abdominal pain; blindness.
Effects of chronic exposure	Nasal cancer, respiratory tract irritation; reproductive disorders, asthma, dermatitis; multiple organ damage.
Section 7: Preventative Measures	
Protective clothing and PPE	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves, and an acid suit.
Handling procedures	Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep container tightly closed. Manipulate under an adequate fume hood. Take precautionary measures against electrostatic discharges. Ground the container while dispensing. Ground all equipment containing material. Use only explosion proof equipment. Use non-sparking tools. Watch for accumulation in low confined areas. Do not use pressure to dispense. Storage temperature depends on methanol content and should be controlled to avoid precipitation or vaporization. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling.
Spill containment	Evacuate and ventilate the area. Stay upwind: Keep out of low areas. Eliminate all sources of ignition. Dyke the area with sand or a natural barrier. Absorb on sand or vermiculite and place in a closed container for disposal. Use non-sparking tools. Transport outdoors. Wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Runoff to sewer may create fire or explosion hazard.
Section 8: First Aid Measures	
Eye contact	Immediate first aid is needed to prevent eye damage. IMMEDIATELY flush eyes with copious quantities of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention. DO NOT use an eye ointment.
Skin contact	Immediate first aid is needed to prevent skin damage. Immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Seek immediate medical attention. Wash contaminated clothing before reusing.
Inhalation	Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Seek immediate medical attention.
Ingestion	If conscious, wash out mouth with water. DO NOT induce vomiting. Seek immediate medical attention.
Section 9: Preparation Information	
Prepared by	Chemical Inc. Laboratories
Preparation date	Aug. 16, 2005
Contact information	(555) 555-5555