

MATERIAL SAFETY DATA SHEET

METHYL ALCOHOL FLUX SOLUTION

I. PRODUCT IDENTIFICATION

CHEMICAL NAME Methanol

COMMON SYNONYMS Methyl Alcohol; Wood Alcohol; Carbinol; Methylol; Wood Spirit

FORMULA CH₃OH

CAS No. 67-56-1

PRODUCT USE: Rectifying Solution

CHEMICAL FAMILY Alcohols

FORMULA WEIGHT 32.04

NIOSH/TECS No. PC1400000

II. HAZARDOUS INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>CONCENTRATION</u>
METHANOL	67-56-1	200 ppm	200 ppm	90-100 %
BORIC ACID	10043-35-3	None Established	None Established	0-10 %
BLUE COLORING	None Known	None Established	None Established	.05-.5 %

III. PHYSICAL PROPERTIES

PHYSICAL FORM Liquid

COLOR & ODOR Blue, Pungent Odor

BOILING POINT 65°C (149°F)

MELTING POINT -98°C (-144°F)

SOLUBILITY IN WATER 100%

SPECIFIC GRAVITY 0.79 (H₂O=1)

VAPOR DENSITY 1.11 (air=1)

VAPOR PRESSURE (mmHg): 96@20°C

EVAPORATION RATE 4.6 (butyl acetate =1)

% VOLATILE 100 %

IV. FIRE AND EXPLOSION DATA

FLASH POINT 12°C (54°F)

TEST CUP METHOD Closed Cup

FLAMMABLE Yes

COMBUSTIBLE Yes

UPPER EXPLOSIVE
LIMIT 36.0 %

LOWER EXPLOSIVE
LIMIT 6.0 %

AUTO-IGNITION TEMP 463°C (867°F)

EXTINGUISHING
MEDIA All Extinguishing Media

SPECIAL
FIREFIGHTING
PROCEDURES Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in a positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

UNUSUAL FIRE AND
EXPLOSION HAZARDS Vapors may flow along surfaces to distant ignition sources and flash back. Closed containers exposed to heat may explode. Contact with strong oxidizers may cause fire. Burns with a clear, almost invisible flame.

TOXIC GASSES
PRODUCED Carbon Monoxide, Carbon Dioxide, Formaldehyde

EXPLOSION DATA-
SENSITIVITY TO
MECHANICAL IMPACT None Identified

EXPLOSION DATA-
SENSITIVITY TO
STATIC DISCHARGE Yes

V. HUMAN HEALTH DATA

ROUTE(S) OF ENTRY Eyes, Skin, Inhalation and Ingestion

INHALATION Inhalation is harmful and may be fatal. Headache, nausea, vomiting, dizziness, narcosis, respiratory failure, low blood pressure, and central nervous system depression may occur.

INGESTION Ingestion is harmful and may be fatal. Blindness, headache, nausea, vomiting, dizziness, gastrointestinal irritation, central nervous system depression and hearing loss may occur.

SKIN CONTACT No hazards identified.

EYE CONTACT May cause irritation and temporary corneal damage.

CHRONIC EXPOSURE Chronic exposure may lead to kidney damage or liver damage.

**AGGRAVATION OF
PRE-EXISTING
CONDITIONS** Eye disorders, skin disorders, liver or kidney disorders

CARCINOGENICITY Not listed by NTP, IARC or regulated as a carcinogen.

VI. FIRST AID

INHALATION Remove to fresh air. Call a physician. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Prompt action is essential.

INGESTION If swallowed call a physician. If person is conscious, immediately drink large quantities of water. Induce vomiting.

SKIN CONTACT In case of contact with skin, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

EYE CONTACT Immediately flush eyes with running water for 15 minutes. Call a physician.

VII. EMPLOYEE PROTECTION RECOMMENDATIONS

**EYE/SKIN
PROTECTION** Use Safety goggles and face shield, uniform, protective suit, rubber gloves are recommended.

**PERSONAL
RESPIRATORS** Respiratory protection required if airborne concentration exceeds TLV. There are no cartridges for methanol vapors. Handling operations should be conducted with a chemical fume hood. At concentrations above 200 ppm, a self-contained breathing apparatus is advised.

**VENTILATION
SYSTEM** Use general or local exhaust ventilation to meet TLV requirements.

VIII. REACTIVITY DATA

STABILITY Stable under ordinary conditions of use and storage.

**CONDITIONS TO
AVOID** Heat, flame, other sources of ignition

**HAZARDOUS
POLYMERIZATION** Will not occur.

INCOMPATIBILITIES Strong oxidizing agents, strong acids, zinc, aluminum, magnesium

**DECOMPOSITION
BYPRODUCTS** Carbon monoxide, carbon dioxide, formaldehyde

IX. SPILL AND LEAK PROCEDURES

GENERAL SAFETY Remove all sources of ignition; ventilate area. Provide protection from inhalation of dust or fumes.

SPILL OR LEAK RESPONSE Wear self-contained breathing apparatus and full protective clothing. Shut off ignition sources; no flares, smoking or flames in area. Stop leak if you can do so without risk. Use water spray to reduce vapors. Take up with sand or other non-combustible absorbent material and place into container for later disposal. Flush area with water.

WASTE DISPOSAL Check Federal, State, and local environmental regulations.

X. SPECIAL PRECAUTIONS AND STORAGE DATA

STORAGE TEMPERATURE No data available.

SHELF LIFE No limitation if tightly sealed.

SPECIAL SENSITIVITY No data available.

HANDLING & STORAGE Maintain safe housekeeping practices. Keep container tightly closed. Store in a cool, dry, well-ventilated, flammable liquid storage area.

PRECAUTIONS Bond and ground containers when transferring liquid

XI. SHIPPING INFORMATION

D.O.T. SHIPPING NAME Methanol

HAZARD CLASS 3

U.N. NUMBER UN1230, Reportable Quantity: 5000 Lbs.

PACKING GROUP II

LABELS 3 Flammable Liquid

XII. ANIMAL TOXICITY DATA

ORAL LD 50 5628 mg/k (RAT)

INTRAPERITONEAL LD 50 9540 mg/k (RAT)

SUBCUTANEOUS LD 50 9800 mg/kg (MOUSE)

SKIN LD 50 20 g/kg (RABBIT)

XIII. FEDERAL REGULATORY INFORMATION

[OSHA STATUS](#) Hazardous

[TSCA STATUS](#) Listed on TSCA inventory

[CERCLA RQ](#) 5000 Lbs

[RCRA STATUS](#) Not hazardous waste in purchased form

[SARA TITLE III](#)

[S302 EHS RQ](#) None established

[S302 EHS TPQ](#) None established

[S313 TOXIC
CHEMICALS](#) Yes, Methanol

[S311/312 HAZARD
CATEGORIES](#) Acute: Yes, Chronic: Yes, Flammability: Yes, Pressure: No, Reactivity: No