



American International Chemical, Inc.

Corporate Offices: (800) 238-0001

Internet: www.aicma.com Email: info@aicma.com

MATERIAL SAFETY DATA SHEET

CAPPING B REAGENT (1-Methylimidazole in Tetrahydrofuran 16:84)

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

American International Chemical, Inc. 135 Newbury Street Framingham, MA 01701	Emergency Number: Chemtrec Information Number:	800-424-9300 703-527-3887 800-238-0001
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Date: February 2008

Synonyms: Cap B (1-Methylimidazole in THF, 16:84)

CAS #: Not Applicable

DOT Hazard Class: Flammable Liquid, Corrosive, N.O.S.
(Contains Tetrahydrofuran & 1-Methylimidazole)
UN2924, Packing Group II
Primary Hazard Class 3
Secondary Hazard Class 8

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

Component	CAS #	% (V/V)
Tetrahydrofuran	109-99-9	>80%
1-Methylimidazole	616-47-7	<20%

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Extremely flammable clear liquid and vapor. Tends to form explosive peroxides especially when anhydrous. Causes burns.

Harmful if inhaled, swallowed or absorbed through the skin.

May cause damage to nervous and respiratory systems, kidneys and liver.

POTENTIAL HEALTH EFFECTS:

Skin: Causes burning on contact.

Eyes: Causes irritation or burning.

Inhalation: Causes irritation to the respiratory tract.

Ingestion: Causes irritation or burning.

CARCINOGENICITY: Not listed as a cancer-causing agent.

SECTION 4 - FIRST AID MEASURES

Skin: Immediately wash skin with soap and water for at least 15 minutes.

Eyes: Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart.

Inhalation: Remove to the fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Wash out mouth with water. Do not induce vomiting. If conscious, give water.

On All Of The Above: Seek medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: <-15 °C (Tetrahydrofuran)
92 °C (1-Methylimidazole)

Flammable Limits: lel: 2.0; uel: 11.8 (Tetrahydrofuran)
lel: 2.7; uel: 15.7 (1-Methylimidazole)

Extinguishing Media: Use carbon dioxide or dry chemical. Use water to cool fire-exposed containers and disperse vapors.

Special Fire Fighting Procedures:

All firefighters should use self-contained breathing apparatus and full fire-fighting turn-out gear.

Unusual Fire Explosion Hazard: Dangerous fire and explosive hazard. Explosive peroxides may form after long storage or exposure to air and light. THF can form heat sensitive peroxide, which may explode on concentration by distillation or drying. Do not distill or allow THF, or solutions containing THF, to dry if tests show more than 0.05% THF peroxide present. To avoid a possible explosion, THF should never be distilled to dryness. Vapor can travel distances to ignition source and flash back.

Auto Ignition Temperature: 321 °C (Tetrahydrofuran)
525 °C (1-Methylimidazole)

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unnecessary or unprotected personnel.

Wear suitable protective equipment listed under Exposure Controls, Personal Protection below.

Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards.

Contain spilled liquid with sand or earth. Place in a disposal container. Avoid runoff into storm sewers and ditches that lead to waterways

SECTION 7 - HANDLING AND STORAGE

Avoid contact with skin, eyes and clothing. Use with adequate ventilation. Use normal personal hygiene and housekeeping. Keep container closed. Store in cool dry area away from ignition sources and oxidizers.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved respirators.

VENTILATION REQUIREMENTS: Use in an approved fume hood or with adequate ventilation.

SKIN AND EYE PROTECTION: Use PVA or equivalent gloves, chemical goggles and clothing sufficient to protect skin.

WORK, HYGIENIC PRACTICES: Safety showers and/or eyewash should be available. Do not leave food or smoke in work area. Wash thoroughly and remove or clean any contaminated clothing.

EXPOSURE LIMITS:

OSHA – PEL:

Component	TWA		STEL	
	PPM	MG/M ³	PPM	MG/M ³
Tetrahydrofuran	200	590	250	735
1-Methylimidazole-	Not available			

ACGIH-TLV:

Component	TWA		STEL	
	PPM	MG/M ³	PPM	MG/M ³
Tetrahydrofuran	200	590	250	737
1-Methylimidazole-	Not available			

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 66 °C (Tetrahydrofuran)
196 °C (1-Methylimidazole)

Vapor Pressure (MM Hg): Not Available (Tetrahydrofuran)
1.04 (1-Methylimidazole)

Vapor Density (AIR=1): 2.5 (Tetrahydrofuran)
0.4 (1-Methylimidazole)

Specific Gravity (H₂O=1): 0.910 @ 25 °C (Tetrahydrofuran)
1.04 @ 25 °C (1-Methylimidazole)

Percent Volatile by Volume (%): Not Available

Melting Point: -108 °C (Tetrahydrofuran)
60 °C (1-Methylimidazole)

Evaporation Rate (Butyl Acetate=1): 8 (Tetrahydrofuran)

Solubility in Water: Miscible in water

pH: Not Available

CAPPING B REAGENT

(1-Methylimidazole in Tetrahydrofuran 16:84)

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal temperatures and pressures.

HAZARDOUS POLYMERIZATION: May occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Carbons (CO_x).

KEEP AWAY FROM: Heat, contact with ignition sources and evaporation to dryness or near dryness. Strong oxidizers, sodium aluminum hydride, excel of strong caustic and lithium aluminum hydride and moisture.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity Data (Tetrahydrofuran)

Oral Rat LD50: 1650 mg/kg

Inhalation Rat LC50: 21,000 ppm/3hrs

Investigated as a tumorigen, mutagen, reproductive effector

Toxicity Data (1-Methylimidazole)

Oral Rat LD50: 1400 mg/kg

Reproductive Toxicity: Animal data show developmental effects only at exposure levels producing other toxic effects in adult animals. Animal testing for reproductive effects show no change in reproductive performance.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Toxicity:

Tetrahydrofuran: 96-hour LC50, fathead minnows: 2160 mg/L

1-Methylimidazole: Not available

SECTION 13 - DISPOSAL CONSIDERATIONS

EPA Waste Numbers: D001, U213

Dispose of in accordance with all federal, state and local regulations.

RCRA WASTE #: Not Listed

SECTION 14 - TRANSPORTATION INFORMATION

D.O.T. SHIPPING NAME: Flammable Liquid, Corrosive, N.O.S.

(Contains Tetrahydrofuran & 1-Methylimidazole)

TECHNICAL SHIPPING NAME: SAME

U.N./NUMBER: UN2924

D.O.T. HAZARD CLASS AND GROUP NUMBER: Primary Class 3, Secondary Class 8, PG II

D.O.T. PLACARD: Flammable Liquid, Corrosive

PRODUCT LABEL: Capping B Reagent

SECTION 15 - REGULATORY INFORMATION

OSHA STATUS: Tetrahydrofuran – Listed
 1-Methylimidazole – Not listed

TSCA STATUS: This product is a mixture. The CAS numbers of all components are listed on the TSCA inventory.

CERCLA REPORTABLE REQUIREMENTS: (RQ)
 Tetrahydrofuran – 1000
 1-Methylimidazole – None

SARA TITLE III INFORMATION:

Section 302 Extremely Hazardous Substance:

Tetrahydrofuran: Not listed
1-Methylimidazole: Not listed

Section 313 Toxic Chemicals:

Tetrahydrofuran: Not listed
1-Methylimidazole: Not listed

Section 311/312 Hazard Category:

Tetrahydrofuran: Fire hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard.
1-Methylimidazole: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard.

SECTION 16 - OTHER INFORMATION

Reason for Issue: New Product

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