

CAS # 96-47-9 2-METHYLTETRAHYDROFURAN

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SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: 2-Methyltetrahydrofuran

Synonyms: Tetrahydro-2-Methylfuran; 2-Methyloxolane; MTHF;
Tetrahydrosylvan.

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	Percent	EINECS/ELINCS
96-47-9	Methyltetrahydrofuran	99+	202-507-4
128-37-0	2,6-di-tert-butyl-p-cresol	0.015-0.	204-881-4

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance: colorless clear liquid. Flash Point: -11 deg C.
Danger! Highly flammable. Causes eye and respiratory tract irritation.
May form explosive peroxides.
Target Organs: Respiratory system, eyes.

Potential Health Effects

Eye: Causes eye irritation.

Skin: May cause skin irritation. May be harmful if absorbed through the skin.

Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed.

Inhalation: Causes respiratory tract irritation. May be harmful if inhaled.

Chronic: Prolonged or repeated exposure may cause permanent eye damage. Prolonged or repeated exposure may cause nausea, dizziness, and headache.

SECTION 4 - FIRST AID MEASURES

Eyes: Get medical aid immediately. Immediately flush eyes with plenty of water for at least 15 minutes.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Vapor may cause flash fire. May form explosive peroxides.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Water may be ineffective.

Flash Point: -11 deg C (12.20 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 2

SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not let this chemical enter the environment.

SECTION 7 - HANDLING AND STORAGE

Handling: Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Methyltetrahydrofuran	none listed	none listed	none listed
2,6-di-tert-butyl-p-cresol	2 mg/m ³ TWA (inhalable fraction and vapor)	10 mg/m ³ TWA	none listed

OSHA Vacated PELs: Methyltetrahydrofuran: No OSHA Vacated PELs are listed for this chemical. 2,6-di-tert-butyl-p-cresol: 10 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Clear liquid
Appearance: colorless
Odor: Not available.
pH: Not available.
Vapor Pressure: 102 mm Hg @ 20 deg C
Vapor Density: Not available.
Evaporation Rate:Not available.
Viscosity: 4 mPas @ 25 deg C
Boiling Point: 78 - 80 deg C
Freezing/Melting Point:-136 deg C
Decomposition Temperature:Not available.
Solubility: 15g/100ml (25°C)
Specific Gravity/Density:0.860g/cm³
Molecular Formula:C₅H₁₀O
Molecular Weight:86.13

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: May form explosive peroxides. Air sensitive.
Conditions to Avoid: Incompatible materials, ignition sources, exposure to air, excess heat.
Incompatibilities with Other Materials: Oxidizing agents, strong acids, strong bases.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported

SECTION 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 96-47-9: LU2800000

CAS# 128-37-0: GO7875000

LD50/LC50:

CAS# 96-47-9:

Draize test, rabbit, eye: 500 mg/24H Mild;

Inhalation, rat: LC50 = 6000 ppm/4H;

Skin, rabbit: LD50 = 4500 mg/kg;

CAS# 128-37-0:

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 500 mg/48H Moderate;

Oral, mouse: LD50 = 650 mg/kg;

Oral, mouse: LD50 = 1040 mg/kg;

Oral, rabbit: LD50 = 2100 mg/kg;

Oral, rat: LD50 = 890 mg/kg;

Carcinogenicity:

CAS# 96-47-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 128-37-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: No data available. No information available.

Environmental: No information available.

Physical: No information available.

Other: Do not empty into drains.

SECTION 13 - DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

SECTION 14 - TRANSPORT INFORMATION

	US DOT	Canada TDG
Shipping Name:	METHYLTETRAHYDROFURAN	METHYLTETRAHYDROFURAN
Hazard Class:	3	3
UN Number:	UN2536	UN2536
Packing Group:	II	II
Additional Info:		FLASHPOINT -11 C

SECTION 15 - REGULATORY INFORMATION

US FEDERAL

TSCA

CAS# 96-47-9 is listed on the TSCA inventory.

CAS# 128-37-0 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 128-37-0: immediate.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants

under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 96-47-9 can be found on the following state right to know lists: Pennsylvania, Massachusetts.

CAS# 128-37-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI F

Risk Phrases:

R 11 Highly flammable.

R 19 May form explosive peroxides.

R 36/37 Irritating to eyes and respiratory system.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 33 Take precautionary measures against static discharges.

S 39 Wear eye/face protection.

WGK (Water Danger/Protection)

CAS# 96-47-9: No information available.

CAS# 128-37-0: 1

Canada - DSL/NDSL

CAS# 128-37-0 is listed on Canada's DSL List.

CAS# 96-47-9 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, F, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 96-47-9 is listed on the Canadian Ingredient Disclosure List.

CAS# 128-37-0 is listed on the Canadian Ingredient Disclosure List.

SECTION 16 - ADDITIONAL INFORMATION

Prepared by: LOBA CHEMIE (INDIA)

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