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Material Safety Data Sheet

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SECTION 1: Chemical Product and Company Identification

Product Name:	Flamex Fuel Additive, FXD II
Product Code:	Methanol
Chemical Family:	Alcohol
CAS Number:	67-56-1
Synonyms:	Methyl Alcohol, Wood Alcohol
Item Number:	741230
Harmonized System Codes (HS Code):	290511

Responsible Party: Flamex Industries, Inc.
1630 22nd Street North
St. Petersburg, FL 33713

24-Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident Call ***CHEMTREC***
North America: (800) 424-9300
Others: (800) 297-5828

SECTION 2: Composition, Information on Ingredients

CAS#	EINECS/ELINCS	Chemical Name	Weight, %
67-56-1	200-659-6	Methanol	92
1330-20-7	215-535-7	Xylene Blend	8

SECTION 3: Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless. Poison! Cannot be made non-poisonous. Causes eye and skin irritation. May be absorbed through intact skin. This substance has caused adverse reproductive and fetal effects in animals. **Danger! Flammable liquid and vapor**. Harmful if inhaled. May be fatal or cause blindness if swallowed.

May cause central nervous system depression. May cause digestive tract irritation with nausea, vomiting, and diarrhea. Causes respiratory tract irritation. May cause liver, kidney and heart damage.

Potential Health Effects

Eye: Contact may cause mile eye irritation including stinging, watering, and redness.
Skin: Skin irritant. Contact may cause redness, itching, burning, and skin damage. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin, leading to dermatitis (inflammation). Moderate degree of toxicity by skin absorption.
Inhalation: Low to moderate degree of toxicity by inhalation
Ingestion: Moderate degree of toxicity by ingestion
Signs & Symptoms: Effects of overexposure may include ringing in the ears, nausea, vomiting, tremors, visual disturbances (including blindness), brain damage, convulsions, coma, death, irritation of the digestive tract, irritation of the respiratory tract, transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue).
Cancer: No data available
Target Organs: Kidneys, heart, central nervous system, liver, eyes. Overexposure may cause injury to the eyes (blindness). Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painters' Syndrome). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

SECTION 4: First Aid Measures

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. It symptoms persist, seek medical attention.
Skin: Immediately flush affected areas with large amounts of water while removing contaminated shoes, clothing and constrictive jewelry. If skin surface is damaged, apply a clean dressing and seek immediate medical attention. If skin surface is not damaged, cleanse the affected area by washing with mild soap and water. If irritation or redness develops, seek immediate medical attention.
Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration.
Ingestion: If swallowed, seek emergency medical attention. If victim is drowsy or unconscious and vomiting, place on the left side with the head down and do not give anything by mouth. If victim is conscious and alert and ingestion occurred within the last hour, vomiting should be induced for ingestions of several swallows preferably under direction of physician or poison center.
Notes to Physician: This material contains methanol. Methanol is metabolized to formaldehyde and formic acid and the onset of metabolic acidosis, visual disturbances and other symptoms may be delayed from 6 –30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Hemodialysis effectively removes methanol and should be used in serious cases to enhance the elimination of methanol.

SECTION 5: Fire Fighting Measures

Flammable Properties:

Flash Point:	52F/11C (TCC, ASTM D-56)
OSHA Flammability Class	Flammable Liquid
LEL%	6.0
UEL%	36.5
Autoignition Temperature	725F/385C

Unusual Fire and Explosion Hazards: This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical, electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Vapors are heavier than air and can accumulate in low areas.

Extinguishing Media: Dry chemical, carbon dioxide, or alcohol-resistant foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Water may be ineffective for extinguishments, unless used under favorable conditions by experienced fire fighters.

Fire Fighting Instructions: For fires beyond the incipient state, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as condition warrant. Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged container from immediate hazard area if is can be done with minimal risk. Water spray may e useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

SECTION 6: Accidental Release Measures

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

Small Spills/Leaks: Scoop up with a non-sparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces. . Don't flush into sewers or natural waterways.

Large Spill: Contain material as described above and call the local fire or police department for immediate emergency assistance.

SECTION 7: Handling and Storage

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharge. The use of explosion-proof electrical equipment is recommended and may be required.
Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits. Do not wear contaminated clothing or shoes. "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, or other sources of ignition. "Empty" drums should be completely drained and properly bunged. All containers should be disposed of in an environmentally safe manner.
Storage: Keep containers tightly sealed. Use and store this material in cook dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from an incompatible material. Protect containers against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet appropriate fire codes.

SECTION 8: Exposure Controls, Personal Protection

Chemical Name	OSHA - PEL	ACGIH
Methanol	200 ppm TWA; 260 mg/m3 TWA; 250 ppm STEL; 325 mg/m3 STEL	200 ppm TWA; 250 ppm STEL; skin - potential for cutaneous absorption
Xylene	100 ppm TWA; 150 ppm STEL	100 ppm TWA; 150 ppm STEL

Personal Protective Equipment
Eyes: Wear chemical goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

SECTION 9: Physical and Chemical Properties

Appearance:	Clear, colorless
Physical Form:	Liquid
Odor:	Alcoholic
pH:	Not Applicable
Vapor Pressure (mm Hg):	138@25C
Vapor Density (air=1)	1.1
Boiling Point:	148F / 64.6C

Melting/Freezing Point:	-144F / -97.8C
Specific Gravity:	0.7921 H_20=1@ 68F/20C)
Percent Volatile:	100 %
Evaporation Rate (nBuAc =1):	> 1
Decomposition Temp:	No data

SECTION 10: Stability and Reactivity

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Flammable liquid and vapor: Vapor can cause flash fire.
Conditions to avoid: Avoid all possible sources of ignition.
Materials to Avoid: Avoid contact with strong acids, strong bases, strong oxidizing agents.
Hazardous Decomposition Products: Combustion can yield carbon dioxide, carbon monoxide.
Hazardous Polymerization: Will not occur.
Special Hazard Designations:

NFPA 704 Hazard Class		**HMIS Hazard Class**	
Health	1 (Slight)	Health	2 (Moderate)
Flammability	3 (High)	Flammability	3 (High)
Instability	0 (Least)	Physical Hazards	0 (Least)

SECTION 11: Toxicological Information

Health Hazards/Precautionary Measures: Cannot be made non-poisonous. Probable harm to the fetus based on animal data. Avoid exposure during pregnancy. Causes skin irritation. May cause blindness if swallowed. May be fatal or cause blindness if swallowed. May be harmful if swallowed. Vapor harmful. Avoid breathing vapor or mist. Use ventilation adequate to keep exposure below recommended limits, if any. Do not taste or swallow. Wash thoroughly after handling. Avoid contact with eyes, skin and clothing. Wear appropriate personal protective equipment. Physical Hazards/Precautionary Measures: Flammable liquid and vapor. Keep away from heat, sparks, flames, static electricity or other sources of ignition.

CAS# 67-56-1 Methanol

Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: Methanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Specific developmenta l abnormalities include cardiovascular, musculoskeletal, and urogenital systems.
Teratogenicity: Effects on Newborn: Behaviorial, Oral, rat: TDLo=7500 mg/kg (female 17-19 days after conception). Effects on Embryo or Fetus: Fetotoxicity, Inhalation, rat: TCLo=10000 ppm/7H (female 7-15 days after conception). Specific Developmental Abnormalities: Cardiovascular, Musculoskeletal, Urogenital, Inhalation, rat: TCLo=20000 ppm/7H (7-14 days after conception).
Reproductive Effects: Paternal Effects: Spermatogenesis: Intraperitoneal, mouse TDLo=5 g/kg (male 5 days pre-mating). Fertility: Oral, rat: TDLo = 35295 mg/kg (female 1-15 days after conception). Paternal

Effects: Testes, Epididymis, Sperm duct: Oral, rat: TDLo = 200 ppm/20H (male 78 weeks pre-mating).
Neurotoxicity: No information available.
Mutagenicity: DNA inhibition: Human Lymphocyte = 300 mmol/L. DNA damage: Oral, rat = 10 umol/kg. Mutation in microorganisms: Mouse Lymphocyte = 7900 mg/L. Cytogenetic analysis: Oral, mouse = 1 gm/kg.
Other Studies: Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) S tandard Draize Test: Administration into the eye (rabbit) = 40 mg (Moderate). Standard Draize test: Administration int o the eye (rabbit) = 100 mg/24H (Moderate).
CAS# 1330-20-7 Xylene

Target Organs: A six-week inhalation study with xylene produced hearing loss in rats.
Reproductive Effects: Both mixed xylenes and the individual isomers produced limited evidence of fetal toxicity in laboratory animals. Inhalation and oral administration of xylene resulted in decreased fetal weight, increased incidences of delayed bone development, skeletal variations and missed abortions.

SECTION 12: Ecological Information

Ecotoxicity: Fish: Fathead Minnow: 29.4 g/L; 96 Hr; LC50 (unspecified) Goldfish: 250 ppm; 11 Hr; resulted in death Rainbow trout: 8000 mg/L; 48 Hr; LC50 (unspecified) Rainbow trout: LC50 = 13-68 mg/L; 96 Hr.; 12 degrees C Fathead Minnow: LC50 = 29400 mg/L; 96 Hr.; 25 degrees C, pH 7.63 Rainbow trout: LC50 = 8000 mg/L; 48 Hr.; Unspecified ria: Phytobacterium phosphoreum: EC50 = 51,000-320,000 mg/L; 30 minutes; Microtox test No data available.
Environmental: Dangerous to aquatic life in high concentrations. Aquatic toxicity rating: TLm 96>1000 ppm. May be dangerous if it enters water intakes. Methyl alcohol is expected to biodegrade in soil and water very rapidly. This product will show high soil mobility and will be degraded from the ambient atmosphere by the reaction with photochemically produced hyroxyl radicals with an estimated half-life of 17.8 days. Bioconcentration factor for fish (golden ide) < 10. Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.2.
Physical: No information available.

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: CAS# 67-56-1: waste number U154; (Ignitable).
RCRA U-Series: CAS# 1330-20-7: waste number U239; (Ignitable).

SECTION 14: Transport Information

DOT Proper Shipping Name: Methanol

Hazard Class/Division: 3
UN Code: UN1230
Packing Group: II
Bulk Package/Placard: Flammable/1230
Non-Bulk Package Marking: Methanol, UN1230
Non-bulk Package Labels: Flammable
Emergency Response Guide: 131
IMDG Shipping Description: UN1230, Methanol, 3, (6.1), II
Non-bulk Package Marking: Methanol, UN1230
Non-Bulk Package Labels: Flammable Liquids, Toxic Substance
Placards/Marking (Bulk): Flammable Liquids/1230, Toxic Substance
Packaging-Non-Bulk: P001
EMS: F-E, S-D
Subsidiary Risk: 6.1

SECTION 15: Regulatory Information

U.S. Regulation:

EPA SARA 311/312 (Title III Hazard Categories)

Acute Health:	Yes
Chronic Health:	Yes
Fire Hazard:	Yes
Pressure Hazard:	No
Reactive Hazard:	No

International Regulations:

Domestic Substances List: Listed
WHMIS Hazard Class:
B2 – Flammable Liquids
D1B – Material Causing Immediate and Serious Toxic Effects – Toxic Material

SECTION 16: Additional Information

Disclaimer of Expressed and Implied Warranties:

Flamex Industries, Inc. makes no warranty of any kind, express or implied, concerning the use of this product either singly or in combination with other substances. User assumes all risks incident to its use. To the best our knowledge, the information contained herein is accurate. However, neither Flamex Industries, Inc. or any of its subsidiaries or affiliates assume any liability whatsoever for the accuracy or completeness of the information contained herein.