Flamex Industries, Inc.
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Safety Data Sheet

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). **IMPORTANT**: Read this SDS before handling & disposing of this product. Pass this information on to employees, customers, & users of this product.

SECTION 1: Identification

Product Name:	Flamex Fuel Additive, FXD II
Product Identity:	Methanol
Synonyms:	Methyl Alcohol, Wood Alcohol
Item Number:	741230
Harmonized System Codes (HS Code):	290511

Responsible Party: Flamex Industries, Inc.
1499 22nd Street North
St. Petersburg, FL 33713

EMERGENCY PHONES: CHEMTREC: 1-800-424-9300 (USA)
SDS No. : 2015-F1003
Revision date : 09/30/2015

SECTION 2: Hazards identification

Classification: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Signal Words: Danger
Pictograms:

2.1 HAZARD STATEMENTS: (CAT = Hazard Category)
(H200s) PHYSICAL: Flammable Liquids:
H225 HIGHLY FLAMMABLE LIQUID AND VAPOR.(CAT:2)

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(H300s) HEALTH: Acute Toxicity, Oral:
H301 TOXIC IF SWALLOWED.(CAT:3)
(H300s) HEALTH: Aspiration Hazard:
H304 MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.(CAT:1)
(H300s) HEALTH: Acute Toxicity, Dermal:
H311 TOXIC IN CONTACT WITH SKIN.(CAT:3)
(H300s) HEALTH: Skin Corrosion/Irritation:
H315 CAUSES SKIN IRRITATION.(CAT:2)
(H300s) HEALTH: Serious Eye Damage/Eye Irritation:
H318 CAUSES SERIOUS EYE DAMAGE.(CAT:1)
(H300s) HEALTH: Acute Toxicity, Inhalation:
H331 TOXIC IF INHALED.(CAT:3)
(H300s) HEALTH: Target Organ Toxicity, Single Exposure:
H335 MAY CAUSE RESPIRATORY IRRITATION.(CAT:3)
H336 MAY CAUSE DROWSINESS OR DIZZINESS.(CAT:3)
H370 CAUSES DAMAGE TO ORGANS.(CAT:1)
(H400s) ENVIRONMENT: Hazardous to Aquatic Environment, Acute:
H402 HARMFUL TO AQUATIC LIFE.(CAT:3)

2.2 PRECAUTIONARY STATEMENTS:
EXPOSURE PREVENTION: AVOID EXPOSURE OF ADOLESCENTS, CHILDREN!
P100s = General, P200s = Prevention, P300s = Response, P400s = Storage, P500s = Disposal
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breath dust/fume/gas/mist/vapors/spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash with soap & water thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+350 IF ON SKIN: Gently wash with soap & water.
P304+340 IF INHALED: Remove victime to fresh air & keep at rest in a position comfortable for breathing.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present & easy to do - Continue rinsing.
P307+311 If exposed: Call a POISON CENTER or doctor/physician.
P330 Rinse mouth.
P332+313 If skin irritation occurs: Get medical advice/attention.
P361 Remove/Take off immediately all contaminated clothing.
P363 Wash contaminated clothing before reuse.
P403+233 Store in a well-ventilated place. Keep container tightly closed.

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SECTION 3: 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 4: First Aid Measures

4.1 MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE & CHRONIC: See Section 11 for symptoms/effects, acute & chronic.

4.2 GENERAL ADVICE:
First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.

4.3 EYE CONTACT:
If this product enters the eyes, check for and remove any contact lenses. Open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15 minutes. Seek immediate medical attention.

4.4 SKIN CONTACT:
If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

4.5 INHALATION:
After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention.

4.6 SWALLOWING:
Do not induce vomiting. GET MEDICAL ATTENTION IMMEDIATELY. If person is fully conscious give 1 cup or 8 ounces of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight (for example: 1.2 ounce (2 1/3 tablespoon) for a 40 pound child or 36 ml for an 18 kg child).

4.7 NOTES TO PHYSICIAN:
In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically

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effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion.l Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol TM) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol, di- or triethylene glycol, ethylene glycol butyl ether, or methanol intoxication if available. Fomepizol protocol (Brent, J. et al, New England Journal of Medicine, Feb 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizol until serum methanol, EG, DEG, or TEG are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Maintain adequate ventilation and oxygenation of the patient. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighted against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Fire Fighting Measures

5.1 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

5.2 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.

5.3 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.

5.4 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

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water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

SECTION 6: Accidental Release Measures

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

6.2 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.

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

SECTION 7: Handling and Storage

7.1 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.

7.2 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

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Personal Protective Equipment
8.1 Eyes: Wear chemical goggles.
8.2 Skin: Wear appropriate protective gloves to prevent skin exposure.
8.3 Clothing: Wear appropriate protective clothing to prevent skin exposure.
8.4 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)

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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

12.1 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.

12.2 Environmental: Dangerous to aquatic life in high concentrations. Aquatic toxicity rating: TLm

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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.

12.3 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

15.1 EPA REGULATION:
SARA SECTION 311/312 HAZARDS: Acute Health, Fire All components of this product are on the TSCA list.

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SARA Title III Section 313 Supplier Notification This product contains the indicated <*> toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.

SARA TITLE III INGREDIENTS	CAS#	EINECS#	WT%	(REG.SECTION)	RQ(LBS)
*Methanol	67-56-1	200-659-6	90-100	(311,312,313,RCRA)	5000

Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

15.2 STATE REGULATIONS:
THIS PRODUCT MEETS REQUIREMENTS OF SOUTHERN CALIFORNIA AQMD RULE 443.1 & SIMILAR REGULATIONS
CALIFORNIA SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT (PROPOSITION 65):
This product contains the following chemical known to the State of California to cause reproductive toxicity: Methanol

15.3 INTERNATIONAL REGULATIONS
The identified components of this product are listed on the chemical inventories of the following countries: Australia (AICS), Canada (DSL or NDSL), China (IECSC), Europe (EINECS, ELINCS), Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC), Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

15.4 CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)
B2: Flammable Liquid.
D2B: Irritating to skin /eyes.
This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all information required by the CPR.

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. nor any of its subsidiaries or affiliates assume any liability whatsoever for the accuracy or completeness of the information contained herein.

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