



# MATERIAL SAFETY DATA SHEET

Oxon2 -- FM202D  
(Denatured Ethyl Alcohol DA-2D 84.5%VOL)

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** FM201D

**Product Name:** Oxon2 (Denatured Ethyl Alcohol DA-2D 84.5%VOL)

**Synonyms:** None

**Chemical Family:** Alcohol / Naphtha

**Recommended Use of the Chemical:** Combustion Improver / Modifier

**Restrictions on Use:** Food, drug, pesticide, biocidal product use, or any use other than with hydrocarbon fuel

**Distributed By:** The Fuel Matrix, LLC, 513 W Sunset Rd, Henderson, NV 89012 USA

**Telephone number of preparer:** 1-702-683-9069

**24-Hour Emergency Telephone Number:** 1-785-328-4200 ext. 175

## 2. HAZARDS IDENTIFICATION

This product is hazardous according to 29 C.F.R. Section 1910.1200

### Classification:

Flammable liquid: Category 2

Acute toxicity, oral route: Category 4

Eye damage/irritation: Category 2A

Toxic to reproduction: Category 2

Specific target organ toxicity (STOT), single exposure (SE): Category 2

Specific target organ toxicity (STOT), repeated exposure (RE): Category 2

### Signal word:

DANGER

### Hazard statement(s):

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

May cause damage to organs (optic nerve) if swallowed.

May cause damage to organs (central nervous system) through prolonged or repeated inhalation.

**Pictogram(s):**



**Precautionary statement(s):**

**Prevention:**

- Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion proof electrical, ventilating, lighting equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Do not breathe fumes, mist, vapors or spray.
- Wash thoroughly after handling.
- Wear eye protection, face protection, protective gloves, and protective clothing.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not eat, drink or smoke when using product.

**Response:**

- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If swallowed: Call a poison center or doctor if you feel unwell.
- Rinse mouth.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- If exposed or concerned: Get medical advice/attention.
- In case of fire: Use DRY chemicals, CO<sub>2</sub>, alcohol foam or water spray to extinguish.

**Storage:**

- Store locked up.
- Store in a well-ventilated place. Keep cool.

**Disposal:**

Dispose of contents/container in accordance with local regulations

Hazards not otherwise classified (HNOC): Repeated exposure may cause defatting and dermatitis.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

INGREDIENTS	COMPONENT PERCENTAGE
<b>Ethanol 64-17-5</b>	<b>84.5</b>
<b>Methanol 67-56-1</b>	<b>9.3</b>
<b>Water 7732-18-5</b>	<b>4.5</b>
<b>Hydrogen Peroxide 7722-84-1</b>	<b>0.8</b>
<b>Toluene 108-88-3</b>	<b>0.5</b>
<b>Isopropyl Alcohol 67-63-0</b>	<b>0.4</b>

#### 4. FIRST AID MEASURES

**Eye Contact:** Immediately flush eyes with copious quantities of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Get medical attention immediately.

**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

**Most Important Symptoms/Effects, Acute and Delayed:** Harmful if swallowed, causes serious eye irritation, redness and swelling. May cause damage to organs (optic nerve) if swallowed, including blindness. May cause damage to organs (central nervous system) through prolonged or repeated inhalation including headache, dizziness, vomiting and nausea. Suspected of damaging fertility or the unborn child.

**Indication of Immediate Medical Attention and Special Treatment:** Treatment based on sound judgment of physician and individual reactions of patient. This product contains 9.3% v/v of methanol, a toxic substance having produced blindness and other serious effects on vision, as well as death. However, this product also contains the accepted antidote, ethanol (84.5% v/v).

#### 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:** Use DRY chemicals, CO<sub>2</sub>, alcohol foam or water spray.

**Specific hazards arising from the chemical:** Carbon monoxide. Carbon dioxide. Formaldehyde.

**Special Protective Equipment and Precautions for Fire-Fighters:** Fire-fighters should wear full protective clothing, including self-contained breathing equipment. Use water spray to cool fire-exposed containers and structures. Use water spray to disperse vapors; re-ignition is possible. Vapors from this product may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment, and Emergency Procedures:** Wear eye protection, face protection, protective gloves, and protective clothing.

**Environmental Precautionary Measures:** Prevent entry into sewers or streams, dike if needed. Consult local authorities.

**Methods and Materials for Containment and Cleaning Up:** Isolate hazard area and restrict access. Stop leak only if safe to do so. Remove ignition sources and work with non-sparking tools. Ground and bond container and receiving equipment. Small spills: soak up with absorbent material and scoop into containers. Large spills: prevent contamination of waterways. Dike and pump into suitable containers. Clean up residual with absorbent material, place in appropriate container and flush with water.

## 7. HANDLING AND STORAGE

**Handling:** For industrial use only. Do not handle until all safety precautions have been read and understood. Handle and open containers with care. Do not breathe fumes, mist, vapors or spray. Wash thoroughly after handling. DO NOT handle or store near an open flame, heat, or other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. DO NOT pressurize, cut, heat, or weld containers. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment.

**Storage:** Store in a cool, dry, well-ventilated area, away from heat and ignition sources. Place away from incompatible materials. Store in accordance with good industrial practices.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Use process enclosure, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Use explosion proof equipment.

**Respiratory Protection:** Up to 1000 ppm, an approved organic vapor cartridge respirator can be used. For concentrations above 1000 ppm, an air-supplying respirator is recommended. The user should consult a respirator guide, such as the Canadian Standards Association's guide Z94.4- M1982.

**Gloves:** Neoprene gloves, Rubber gloves, Butyl rubber gloves.

**Skin Protection:** Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

**Eyes:** Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Personal Protection Data:** Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Ethanol	1000 ppm STEL	1000 ppm TWA	3300 ppm
Methanol	200 ppm TWA / 250 ppm STEL	200 ppm TWA	6000 ppm
Hydrogen Peroxide	1 ppm TWA	1 ppm TWA	75 ppm
Toluene	20 ppm TWA / 200 ppm TWA	200 ppm TWA 300 ppm Ceiling limit	500 ppm
Isopropyl Alcohol	400 ppm STEL	400 ppm TWA 980 mg/m <sup>3</sup> TWA	2000 ppm

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Colorless Liquid

**Odor:** Alcohol and Naphtha

**Odor Threshold:** Not Available

**pH:** Not Available.

**Freezing/Melting Point:** Not Available.

**Boiling Point:** 76.6°C / 169°F

**Flash Point:** 15 °C / 59 °F

**Evaporation Rate:** 1.7

**Flammability (solid, gas):** Not Applicable

**Flammable Limits in Air (%):** Lower: 2.2% Upper: 36%

**Vapor Pressure:** Not Available.

**Vapor Density:** Not Available.

**Relative Density:** Not Available.

**Specific Gravity:** 0.8081

**Solubility:** Partially soluble in water.

**Partition coefficient:** n-octanol/water: Not Available.

**Auto-ignition Temperature:** 385 - 450 °C / 725 - 842°F

**Decomposition Temperature:** Not Available.

**Viscosity:** Not Available.

**Volatile by Volume:** 100%

**VOCs:** Not Available.

**Molecular Weight:** Not Available. Other: Not Available.

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not reactive.

**Chemical Stability:** Stable.

**Possibility of Hazardous Reactions:** Will not occur.

**Conditions to Avoid:** Avoid excessive heat, open flames and all ignition sources.

**Incompatible Materials:** Oxidizing materials. Acids.

**Hazardous Decomposition Products:** Carbon monoxide. Carbon dioxide. Formaldehyde.

## 11. TOXICOLOGICAL INFORMATION

### Information on the Likely Routes of Exposure

**Ingestion:** Harmful if swallowed. May cause headache, nausea, abdominal discomfort, vomiting, diarrhea, dizziness, drowsiness, faintness, lack of coordination and unconsciousness. A small amount of methanol (usually two or more ounces) can cause mental sluggishness, nausea and vomiting leading to severe illness, and may produce adverse effects on vision with possible blindness or death if treatment is not received. Exposure by ingestion or absorption of methanol may cause systemic poisoning, brain disorders, impaired vision and blindness.

**Skin Contact:** May be absorbed through the skin and contribute to the symptoms listed under ingestion. May cause dermatitis, prolonged or repeated contact may cause defatting, dryness and cracking.

**Inhalation:** High vapor concentrations are irritating to the eyes, nose, throat and lungs; may cause headaches and dizziness; may be anesthetic and may cause other central nervous system effects.

**Eye Contact:** Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva.

### Acute Test of Product:

Acute Oral LD50: 1075 mg/kg (calculated).

Acute Dermal LD50: 3225 mg/kg (calculated).

Acute Inhalation LC50: 32 mg/L (vapor) (calculated).

**Serious Eye Damage/Irritation:** This product contains substances known to cause serious eye irritation.

**Skin Corrosion/Irritation:** This product does not contain substances known to cause skin irritation. This product does contain substances that cause defatting and dermatitis upon repeated exposure.

**Respiratory/Skin Sensitization:** This product does not contain any substances known or suspected of causing respiratory or skin sensitization.

### Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Ethanol	Group 1	A3
Methanol	Not listed	Not Listed
Hydrogen Peroxide	Not listed	A3
Toluene	Group 3	A4
Isopropyl Alcohol	Group 3	A4

**Carcinogenicity Comment:** No additional information available.

**Germ Cell Mutagenicity:** This product does not contain any substances known to cause a permanent change in the amount or structure of the genetic material in a cell.

**Reproductive Toxicity:** Contains Ethanol, which may cause birth defects or other adverse effects on pregnancy. Risk of effects depends on duration and level of exposure. Toluene is suspected of damaging fertility or the unborn child.

**STOT SE:** Methanol may damage the optic nerve if swallowed.

**STOT RE:** Toluene may cause damage to the central nervous system through prolonged or repeated inhalation.

**Other Symptoms Related to the Physical, Chemical and Toxicological Characteristics:**

**Synergistic Products:** In animals, high concentrations of methanol can increase the toxicity of other chemicals, particularly liver toxins like carbon tetrachloride. Ethanol significantly reduces the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

**Potential for Accumulation:** Methanol is readily absorbed into the body following inhalation and ingestion. Skin absorption may occur if the skin is broken or exposure is prolonged. Once absorbed, methanol is rapidly distributed to body tissues. A small amount is excreted unchanged in exhaled air and the urine. The rest is first metabolized to formaldehyde, which is then metabolized to formic acid and/or formate. The formic acid and formate are eventually converted to carbon dioxide and water. In humans, methanol clears from the body, after inhalation or oral exposure, with a half-life of 1 day or more for high doses (greater than 1000 mg/kg) or about 1.5-3 hours for low doses (less than 100 mg/kg or 76.5-230 ppm (100-300 mg/m<sup>3</sup>)).

**Synergistic Materials:** Ethanol with carbon tetrachloride, chloroform, bromotrichloromethane, dimethyl-nitrosamine, thioacetamide, methanol with carbon tetrachloride.

**12. ECOLOGICAL INFORMATION**

Ingredients	Ecotoxicity Fish Species Data	Acute Crustaceans Toxicity	Ecotoxicity Freshwater Algae Data
Ethanol	LC50 (Oncorhynchus mykiss) 12.0 - 16.0 mL/L 96 h LC50 (Pimephales promelas) 13400-15100 mg/L 96 h flow-through 100 mg/L	Not Available	Not Available
Methanol	LC50 (Oncorhynchus mykiss) 13200 mg/L LC50 (Pimephales promelas) 28100 mg/L (96 hrs) LC50 (Lepomis macrochirus) 15400 mg/L (96 hrs)	EC50 (Daphnia Magna): 24500 mg/L (48hrs)	EC50 (Selenastrum capricornutum): 7.1 mg/L (48hrs)
Hydrogen Peroxide	LC50 (Ictalurus punctatus) = 37.4 mg/L 96h LC50 (Pimephales promelas) = 16.4 mg/L 96h	Not Available	Not Available
Toluene	LC50 (Pimephales promelas) 34 mg/l 96h	LC50 (Daphnia magna): 313 mg/l 48h	Not Available
Isopropyl Alcohol	LC50 (Pimephales promelas) >1000 ppm; 96h; LC50 (Leuciscus idus) 8970-9280 ppm; 48h	Not Available	Not Available

**Persistence and Degradability:** Expected to be readily biodegradable based on substances in product.

**Bioaccumulative Potential:** Not expected to bioaccumulate.

**Mobility in Soil:** Expected to be mobile in soil.

**Other Adverse Effects:** No additional remark.

### 13. DISPOSAL CONSIDERATIONS

### 14. TRANSPORT INFORMATION

**DOT (U.S. 49 C.F.R. Parts 105 - 180)**

**DOT Shipping Name:** ALCOHOLS, N.O.S. (ETHANOL)

**DOT Hazardous Class:** 3

**DOT UN Number:** UN1986

**DOT Packing Group:** II

**DOT Reportable Quantity (lbs):** Not Available.

**Note:** No additional remark.

**Marine Pollutant:** No.

### 15. REGULATORY INFORMATION

**U.S. TSCA Inventory Status:** All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

**Canadian DSL Inventory Status:** All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

#### U.S. Regulatory Rules

Ingredients	CERCLA/SARA Section 302:	CERCLA/SARA Section 313:
Ethanol	Not listed	Not Listed
Methanol	Listed	Listed
Hydrogen Peroxide	Listed (conc. >52%).	Not Listed
Toluene	Listed	Listed
Isopropyl Alcohol	Not Listed	Listed

**California Proposition 65: WARNING:** This product can expose you to chemicals, including methanol and toluene, which are known to the state of California to cause reproductive toxicity. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**MA Right to Know List:** Listed.

**New Jersey Right-to-Know List:** Listed. Pennsylvania Right to Know List: Listed.

## 16. OTHER INFORMATION

**Additional Information:** This product has been classified in accordance with the hazard criteria of the US OSHA Hazard Communication Rule (29 C.F.R. Section 1910.1200).

**Preparation Date of SDS:** October 15, 2015 (Rev 1.0); February 15, 2016 (Rev 1.1); April 20, 2020 (Rev 1.2), March 30, 2021 (Rev 1.3).

**NFPA RATINGS FOR THIS PRODUCT ARE:** HEALTH 1, FLAMMABILITY 3, INSTABILITY 0

**HMIS RATINGS FOR THIS PRODUCT ARE:** HEALTH 1\*, FLAMMABILITY 3, REACTIVITY 0

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\*\*\*END OF SDS\*\*\*