1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** 2-Methyltetrahydrofuran

**Cat No.** AC397200000; AC397200010; AC397201000

**Synonyms** Tetrahydro-2-methylfuran

**Recommended Use** Laboratory chemicals

**Company**
- Fisher Scientific
- One Reagent Lane
- Fair Lawn, NJ 07410
- Tel: (201) 796-7100

**Entity / Business Name**
- Acros Organics
- One Reagent Lane
- Fair Lawn, NJ 07410

**Emergency Telephone Number**
- For information in the US, call: 800-ACROS-01
- For information in Europe, call: +32 14 57 52 11
- Emergency Number, Europe: +32 14 57 52 99
- Emergency Number, US: 201-796-7100
- CHEMTREC Phone Number, US: 800-424-9300
- CHEMTREC Phone Number, Europe: 703-527-3887

2. HAZARDS IDENTIFICATION

**DANGER!**

Flammable liquid and vapor. May form explosive peroxides. Irritating to eyes and respiratory system.

**Emergency Overview**

- **Appearance** Colorless
- **Physical State** Liquid
- **odor** No information available

**Target Organs** Respiratory system, Eyes, Lungs

**Potential Health Effects**

**Acute Effects**

**Principle Routes of Exposure**
Eyes
Irritating to eyes.

Skin
May cause irritation. May be harmful in contact with skin.

Inhalation
Irritating to respiratory system. May be harmful if inhaled.

Ingestion
May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects
None known.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions
No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Methyltetrahydrofuran</td>
<td>96-47-9</td>
<td>95-100</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

**Ingestion**
Do not induce vomiting. Obtain medical attention.

**Notes to Physician**
Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point**
-11°C / 12.2°F

**Method**
No information available.

**Autoignition Temperature**
No information available.

**Explosion Limits**
Upper
No data available

Lower
No data available

**Suitable Extinguishing Media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

**Unsuitable Extinguishing Media**
No information available.

**Hazardous Combustion Products**
No information available.

**Sensitivity to mechanical impact**
No information available.

**Sensitivity to static discharge**
No information available.

**Specific Hazards Arising from the Chemical**
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. May form explosive peroxides.
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Should not be released into the environment.

Methods for Containment and Clean Up
Soak up with inert absorbent material. Keep in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. HANDLING AND STORAGE

Handling
Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges. If peroxide formation is suspected, do not open or move container.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat and sources of ignition. May form explosive peroxides. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

<table>
<thead>
<tr>
<th>Eye/face Protection</th>
</tr>
</thead>
</table>

Skin and body protection

Respiratory Protection

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.

Wear appropriate protective gloves and clothing to prevent skin exposure.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
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</table>
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>102 mmHg @ 20 °C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>4 mPa.s @ 25 °C</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>78 - 80°C / 172.4 - 176°F @ 760 mmHg</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-136°C / -212.8°F</td>
</tr>
<tr>
<td>Decomposition temperature °C</td>
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<tr>
<td>Flash Point</td>
<td>-11°C / 12.2°F</td>
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<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Specific Gravity</td>
<td>0.860</td>
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<tr>
<td>Solubility</td>
<td>Partly soluble in water</td>
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<tr>
<td>log Pow</td>
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<tr>
<td>Molecular Weight</td>
<td>86.13</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C5 H10 O</td>
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</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions. May form explosive peroxides.

Conditions to Avoid


Incompatible Materials

Strong acids, Strong bases

Hazardous Decomposition Products

Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

<table>
<thead>
<tr>
<th>Component Information</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
<td>Oral</td>
<td>Dermal</td>
<td>Inhalation</td>
</tr>
<tr>
<td>Methyltetrahydrofuran</td>
<td>Not listed</td>
<td>4500 mg/kg (Rabbit)</td>
<td>6000 ppm (Rat) 4 h</td>
</tr>
</tbody>
</table>

Irritation

Irritating to eyes and respiratory system

Toxicologically Synergistic Products

No information available.

Chronic Toxicity

Carcinogenicity

There are no known carcinogenic chemicals in this product
Sensitization  
No information available.

Mutagenic Effects  
No information available.

Reproductive Effects  
No information available.

Developmental Effects  
No information available.

Teratogenicity  
No information available.

Other Adverse Effects  
The toxicological properties have not been fully investigated.

Endocrine Disruptor Information  
No information available

<table>
<thead>
<tr>
<th>Component</th>
<th>EU - Endocrine Disrupters Candidate List</th>
<th>EU - Endocrine Disruptors - Evaluated Substances</th>
<th>Japan - Endocrine Disruptor Information</th>
</tr>
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<tbody>
<tr>
<td>Methyltetrahydrofuran</td>
<td>Group III Chemical</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity  
No information available.

Persistence and Degradability  
No information available.

Bioaccumulation/ Accumulation  
No information available.

Mobility  
No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods  
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN2536</th>
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<tbody>
<tr>
<td>Name</td>
<td>METHYL TETRAHYDROFURAN</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
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TDG

<table>
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</table>
14. TRANSPORT INFORMATION

IATA

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN2536</th>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>Methyltetrahydrofuran</td>
</tr>
<tr>
<td>Hazard Class</td>
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</tr>
<tr>
<td>Packing Group</td>
<td>Ii</td>
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</table>

IMDG/IMO

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<tr>
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<th>UN2536</th>
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</tr>
<tr>
<td>Packing Group</td>
<td>Ii</td>
</tr>
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</table>

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
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</thead>
<tbody>
<tr>
<td>Methyltetrahydrofuran</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>202-507-4</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>KE-33479</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule.
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Categorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Sudden Release of Pressure Hazard
No

### Reactive Hazard
Yes

### Clean Water Act
Not applicable

### Clean Air Act
Not applicable

### OSHA
Not applicable

### CERCLA
Not Applicable

### California Proposition 65
This product does not contain any Proposition 65 chemicals.

### State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyltetrahydrofuran</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### U.S. Department of Transportation

- Reportable Quantity (RQ): N
- DOT Marine Pollutant: N
- DOT Severe Marine Pollutant: N

### U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

### Other International Regulations

- **Mexico - Grade**: Serious risk, Grade 3

### Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

### WHMIS Hazard Class
- B2  Flammable liquid
- D2B  Toxic materials
- F  Dangerously reactive material
16. OTHER INFORMATION

Prepared By: Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 490-8929

Creation Date: 14-May-2009
Print Date: 23-Sep-2009

Revision Summary: "***", and red text indicates revision

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS