Omstar OpenFlame® Fuel Additive for Furnaces and Boilers that burn Coal, Natural Gas, or Diesel (formerly B-15)

**Description:**
Short-chain and long-chain synthetic esters combined with a petroleum distillate carrier.

**Function:**
Improves furnace performance; increases energy/liter fuel; reduces harmful emissions (SO2, NOx, CO, Hydrocarbons/particulates); cleans exhaust/emissions systems; reduces fuel viscosity for lower pump power required and better cold-weather starting; reduces asphaltenes and maintenance of storage tanks.

**Benefits:**
- Improves performance of all hydrocarbon-fueled furnaces (diesel, natural gas, and coal) by improving combustion efficiency
- Increases Cetane by 4-5% in diesel.
- Fully combusts (99.99% combustible), no ash or residue
- Adds lubricity to ULSD (Ultra Low Sulfur Diesel) reducing wear of pump components – can reduce injection nozzle size as a result
- Cleans fuel systems, furnaces, boilers, and exhaust stacks
- Significantly reduces SO2, NOx, CO, and hydrocarbons/particulates
- Environmentally friendly, biodegradable, non-toxic

**Hazard Identification:**
**Principal Hazards:** Combustible liquid, prolonged or repeated skin contact may cause dermatitis, see section 11 on the MSDS for complete health hazard information.

**Threshold Limits:** The PEL (OSHA) and the TLV (ACGIH) is 5 mg/m³ for oil mists. The PEL (OSHA) and the TLV is 50 mg/m³ and the STEL is 75 mg/m³ for Naphthalene. The PEL (OSHA) and the TLV is 125 mg/m³ for Trimethylbenzene.

**Primary Routes of Exposure:** Non-Hazardous

**First Aid Measures:**
**ORAL:** Do not induce vomiting. If conscious, give 2 glasses of water. Get medical attention.

**EYES:** Flush with water at least 15 minutes. Get medical attention if eye irritation develops or persists.

**SKIN:** Wash immediately with soap and water. Remove soiled clothing. Get medical attention if irritation develops. Launder contaminated clothing.

**INHALATION:** Remove exposed person to fresh air. If breathing is labored, administer oxygen and obtain immediate medical attention. If irritation persists or if toxic symptoms are observed, get medical attention.
## Properties and Compounds:

**Appearance:** Yellow Oil Liquid

**Density 60°F**  
ASTM-D287 0.8324 g/cm³

**Boiling Point**  
ASTM-D93 > 230°F

**Calorific power**  
ASTM-D240 38,438.24 kj/kg

**Cloud Point**  
ASTM-D2500 -5°C

**Pour Point**  
ASTM-D97 -9°C

**Sulfur (%P, S)**  
ASTM-D129 Less than 0.05%

**Humidity (%V)**  
ASTM-D95 Less than 0.01%

**Total Ashes (%P)**  
ASTM-D482 Less than 0.001 or 99.99% free of ashes

### Metals Spectrograph:

<table>
<thead>
<tr>
<th>Element</th>
<th>ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>0.60</td>
</tr>
<tr>
<td>Silicon</td>
<td>0.22</td>
</tr>
<tr>
<td>Magnesium</td>
<td>0.016</td>
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<tr>
<td>Copper</td>
<td>0.017</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.044</td>
</tr>
<tr>
<td>Calcium</td>
<td>0.21</td>
</tr>
<tr>
<td>Aluminum</td>
<td>Tr &lt; 0.01</td>
</tr>
<tr>
<td>Vanadium</td>
<td>0.069</td>
</tr>
<tr>
<td>Other Elements</td>
<td>Nil</td>
</tr>
</tbody>
</table>

**Loss on Ignition (%P)**  
ASTM-D482 99.99976%

### Additive Application:

**Fuel:** 30ml of Omstar OpenFlame for each 40 liters of fuel (or 1oz OpenFlame to 10 gallons of fuel) (1:1280, Gasoline or Diesel). Coal: 1 oz. for each 137 lbs. Natural gas: 1 oz. for each 500 cu. ft. Adjust for optimum combustion.

**First Application in fuel:** Recommend a shock treatment of 5 times normal Omstar OpenFlame for each unit of fuel in above paragraph. This will improve combustion and reduce smoke more quickly, and clean emission systems/exhaust stacks more thoroughly.

### Shipping:

**Containers:** 14,000-24,000 liter collapsible bladder in 20’ ISO container, 55 gallon drum, 20 liter container. Do not use low-density polyethylene containers, only high-density polyethylene (HDPE), recycling code “2”

**Transportation Information:** Shipping Classification: 65 Non-Hazardous; DOT Shipping Name: Oil, N.O.S; UN/NA Number: NA 1270.