Material Safety Data Sheet

SECTION 1 — COMPANY IDENTIFICATION

Manufacturer: Dexsil Corporation
One Hamden Park Drive
Hamden, CT  06517

Emergency Telephone Number:
USA (800) 424-9300 (CHEMTREC)
INT'L (703) 527-3887

Date Prepared: 02-09-2015
Date Reviewed: 02-09-2015

Telephone Number: (203) 288-3509
Email: info@dexsil.com

Product Description: The FAME Check product line is a field Test Kit for determining Fatty Acid Methyl Esters in fuel oils.

SECTION 2 — HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Plastic screw top vial
Acute Tox. 5;H313 May be harmful in contact with skin. (Not adopted by US OSHA)
Skin Corr. 1A;H314 Causes severe skin burns and eye damage.
Eye Dam. 1;H318 Causes serious eye damage.

Aquatic Chronic 2;H411 Toxic to aquatic life with long lasting effects.

Extraction Buffer
Acute Tox. 5;H303 May be harmful if swallowed. (Not adopted by US OSHA)
Acute Tox. 4;H332 Harmful if inhaled.
Skin Corr. 1A;H314 Causes severe skin burns and eye damage.

Eye Dam. 1;H318 Causes serious eye damage.
STOT SE 3;H335 May cause respiratory irritation.

Extraction Solvent
Skin Irrit. 2;H315 Causes skin irritation.
STOT SE 3;H336 May cause drowsiness or dizziness.

Aquatic Chronic 1;H410 Very toxic to aquatic life with long lasting effects.

Reaction Solvent
No applicable GHS categories.

Titration Syringe
No applicable GHS categories.

Indicator Solvent
No applicable GHS categories.

For additional information on toxicity, please refer to Section 11.
2.2. Label elements

Plastic screw top vial

H313 May be harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

[Prevention]:
P260 Do not breathe mist / vapors / spray.
P264 Wash thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.

[Response]:
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P310 Immediately call a POISON CENTER or doctor / physician.
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

[Storage]:
P405 Store locked up.

[Disposal]:
P501 Dispose of contents / container in accordance with local / national regulations.

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Reaction Solvent
No applicable GHS categories.

Extraction Buffer

H303 May be harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

[Prevention]:
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / eye protection / face protection.

[Response]:
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P310 Immediately call a POISON CENTER or doctor / physician.
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P363 Wash contaminated clothing before reuse.

[Storage]:
P403+233 Store in a well ventilated place. Keep container tightly closed.
P405 Store locked up.

[Disposal]:
P501 Dispose of contents / container in accordance with local / national regulations.
**Extraction Solvent**

**Warning**
H315 Causes skin irritation.
H336 May cause drowsiness and dizziness.
H410 Very toxic to aquatic life with long lasting effects.

**Prevention:**
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.

**Response:**
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
P321 Specific treatment (see information on this label).
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P362 Take off contaminated clothing and wash before reuse.

**Storage:**
P403+233 Store in a well ventilated place. Keep container tightly closed.
P405 Store locked up.

**Disposal:**
P501 Dispose of contents / container in accordance with local / national regulations.

**Titration Syringe**
No applicable GHS categories.

**Indicator Solvent**
No applicable GHS categories.

For additional information on toxicity, please refer to Section 11.

### SECTION 3 — Composition/Information on Ingredients

The FAME Check Test Kit consists of one test tube containing a 4 ml plastic vial and a 2 ml break-top vial; one plastic test tube secured with a titration burette and cap assembly containing one 30 gauge needle, one white syringe plunger rod, and one wire tool; two separate screw top vials, a break-top ampule, two sampling syringes, and two tissue wipes.

<table>
<thead>
<tr>
<th>Component</th>
<th>Contents</th>
<th>CAS#</th>
<th>EC#</th>
<th>GHS Classification</th>
<th>% liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic screw top vial</td>
<td>Sodium Hydroxide in Water</td>
<td>1310-73-2</td>
<td>215-185-5</td>
<td>Skin Corr. 1A;H314 Acute Tox. 4;H312</td>
<td>3.71%</td>
</tr>
<tr>
<td>Reaction Solvent</td>
<td>Octanol in Ethanol</td>
<td>111-87-5</td>
<td>209-667-4</td>
<td>Flam. Liq. 2;H225</td>
<td>3.69%</td>
</tr>
<tr>
<td>Extraction Buffer</td>
<td>Hydrochloric Acid in Water</td>
<td>7647-01-0</td>
<td>231-595-7</td>
<td>Skin Corr. 1B;H314 STOT SE 3;H335</td>
<td>12.71%</td>
</tr>
<tr>
<td>Extraction Solvent</td>
<td>isooctane</td>
<td>540-84-1</td>
<td>208-759-1</td>
<td>Flam. Liq. 2;H225 Asp. Tox. 1;H304 Skin Irrit. 2;H315 STOT SE 3;H336 Aquatic Acute 1;H400 Aquatic Chronic 1;H410</td>
<td>11.13%</td>
</tr>
<tr>
<td>Titration Syringe</td>
<td>Sodium Hydroxide in Water</td>
<td>1310-73-2</td>
<td>215-185-5</td>
<td>---</td>
<td>0.02%</td>
</tr>
<tr>
<td>Indicator Solvent</td>
<td>Thymolphthalein in Ethanol</td>
<td>125-20-2</td>
<td>2047-729-7</td>
<td>---</td>
<td>7.33%</td>
</tr>
</tbody>
</table>

100.00%
SECTION 4 — FIRST AID MEASURES

First Aid: In case of contact with reagents, rinse well with water.

Eye Contact: For all kit components, flush eyes with large amounts of water for 15 minutes. Seek medical attention.

Skin contact: Flush with large amounts of water. Use soap and water to wash away organic components.

Inhalation: In case of inhalation, remove to fresh air.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

SECTION 5 — FIRE AND EXPLOSION HAZARD

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Plastic screw top vial</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction Solvent</td>
<td>61°F 16°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraction Buffer</td>
<td>10.4°F -12°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titration Syringe</td>
<td>N/A N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator Solvent</td>
<td>61°F 16°C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flammable Limit Unknown

Extinguishing Media Water, Dry chemical, foam, CO₂

Special Fire Fighting Procedures Wear SCBA. Avoid breathing sodium oxide fumes that will form on combustion.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Protection Chemical safety glasses and rubber gloves

Spills and Leaks plastic screw top vial – Sodium Hydroxide Solution
Absorb completely and flush area with water.

Reaction Solvent – Octanol/Ethanol Ampule
Absorb completely and dispose of as organic waste.

Extraction Buffer – Hydrochloric Acid Solution
Flush area with water and neutralize with alkaline materials

Extraction Solvent – isooctane
Absorb completely and dispose as organic waste.

Titration Syringe – Sodium Hydroxide Solution
Absorb completely and flush area with water.

Indicator Solvent – Ethanol Solution
Absorb completely and dispose of as organic waste.

SECTION 7 — HANDLING AND STORAGE

Protective equipment Wear appropriate safety equipment when performing the test on site.

Storage Store test kits in a cool, dry place. Check expiration date prior to performing test.
SECTION 8 — **Exposure Controls/ Personal Protective Equipment**

**Engineering Controls**  
None required

**Personal Protective Equipment (PPE)**

- **Respiratory protection**: None required during normal use.
- **Ventilation**: Perform test only in a well-ventilated area.
- **Hand Protection**: Always wear rubber gloves when performing the FAME Check test.
- **Eye protection**: Wear safety glasses.
- **General Hygiene Measures**: Avoid contact with skin, eyes and clothing. Wash hands after running tests.

SECTION 9 — **Physical/Chemical Characteristics**

<table>
<thead>
<tr>
<th>Property</th>
<th>Plastic Vial</th>
<th>Reaction Solvent</th>
<th>Extraction Buffer</th>
<th>Extraction solvent</th>
<th>Titration Syringe</th>
<th>Indicator Solvent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Pt. °C</td>
<td>100</td>
<td>195</td>
<td>78</td>
<td>108.6</td>
<td>98</td>
<td>100</td>
</tr>
<tr>
<td>Vapor Pressure mm Hg@ 21°C</td>
<td>2.3</td>
<td>0.02</td>
<td>59.3</td>
<td>16</td>
<td>49.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>miscible</td>
<td>Insoluble</td>
<td>miscible</td>
<td>miscible</td>
<td>insoluble</td>
<td>miscible</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.5</td>
<td>0.82</td>
<td>0.79</td>
<td>1.1</td>
<td>0.69</td>
<td>1</td>
</tr>
<tr>
<td>Percent Volatile</td>
<td>none</td>
<td>N/A</td>
<td>100</td>
<td>N/A</td>
<td>100</td>
<td>none</td>
</tr>
<tr>
<td>Evaporation Rate Butyl Acetate=1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>&lt;1</td>
<td>N/A</td>
</tr>
<tr>
<td>Appearance</td>
<td>colorless</td>
<td>Colorless</td>
<td>colorless</td>
<td>colorless</td>
<td>colorless</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
<td>Sweet</td>
<td>pleasant</td>
<td>irritating</td>
<td>gas like</td>
<td>Odorless</td>
</tr>
</tbody>
</table>

N/A = not available

SECTION 10 — **Reactivity Data**

**Chemical Stability**: All components are stable.

**Conditions to Avoid**: Do not expose broken sodium ampule to moisture. Keep from strong oxidizers.

**Hazardous Decomposition Products**: Sodium will form hydrogen, sodium hydroxide and sodium oxide when moisture is present. Other solutions are stable.

**Hazardous Polymerization**: Will not occur.
SECTION 11 — Toxicological Information

Toxicity Data

<table>
<thead>
<tr>
<th>Component</th>
<th>Contents</th>
<th>TLV / (PEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic screw top vial</td>
<td>Sodium Hydroxide</td>
<td>2 mg/m³/(2 mg/m³)</td>
</tr>
<tr>
<td>Reaction Solvent</td>
<td>Octanol</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Ethanol</td>
<td>1900 mg/m³ / (1900 mg/m³)</td>
</tr>
<tr>
<td>Extraction Buffer</td>
<td>Hydrochloric Acid</td>
<td>5 ppm/(5 ppm)</td>
</tr>
<tr>
<td>Extraction Solvent</td>
<td>Isooctane</td>
<td>2350 mg/m³ / (2350 mg/m³)</td>
</tr>
<tr>
<td>Titration Syringe</td>
<td>Sodium Hydroxide</td>
<td>2 mg/m³/(2 mg/m³)</td>
</tr>
<tr>
<td>Titration Solvent</td>
<td>Ethanol</td>
<td>1900 mg/m³/(1900 mg/m³)</td>
</tr>
</tbody>
</table>

SECTION 12 — Ecological Information

Ethanol: Ecotoxicity: Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3°C Fish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified) Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox test When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

SECTION 13 — Disposal Considerations

Sampling Syringe: Dispose of in accordance with all applicable federal, state and local environmental regulations.

Test Tube 1: Contains reacted oil sample and organic liquid. Dispose of as an organic waste in accordance with all applicable federal, state and local environmental regulations.

SECTION 14 — Transportation Information

DOT
Domestic Highway & Rail Transport Only: Packaging conforms to conditions and limitations specified in 49 CFR 173.4.

IATA
Domestic/International Air: Kits are shipped as Dangerous Goods Permitted in Excepted Quantities.

SECTION 15 — Regulatory Information

SARA Listed: Ethanol is identified on SARA Sec. 313.

TSCA Inventory Items: Ethanol is identified on the TSCA inventory.

CERCLA Listed: Isooctane, hydrochloric acid and Sodium hydroxide are CERCLA listed chemicals.

EINECS: Components of this product are on the European Inventory of Existing Commercial Chemical Substances.

SECTION 16 — Other Information

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness and dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and danger of these chemicals for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. These chemicals may interact with other substances. Since the potential uses are so varied, Dexsil cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Dexsil warrants that the chemicals meet the specifications set forth on the label.

DEXSIL DISCLAIMS ANY OTHER WARRANTIES; EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, IT'S MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Dexsil will periodically revise this Material Safety Data Sheet. CHEMTREC emergency telephone number is to be used ONLY in the event of CHEMICAL EMERGENCIES involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to the Customer Service Dept. at 1-203-288-3509.

For additional information, contact Dexsil. Rev. 1